

August 09, 2019

Vista Work Order No. 1901246

Ms. Cindy Fields
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

Dear Ms. Fields,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 30, 2019 under your Project Name 'Port of Portland T4 PDI'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1901246

Case Narrative

Sample Condition on Receipt:

Seventeen sediment samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1613B

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with each preparation batch. No analytes were detected in the Method Blanks above the quantitation limits. The OPR recoveries were within the method acceptance criteria.

As requested, a Duplicate was performed on sample "T4-PDI2019-SC19-190521-05-07". The Duplicate RPDs were within the acceptance criteria for all analytes.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1901246-01	T4-PDI2019-SC12-190521-01-03	21-May-19 12:58	30-May-19 10:09	Amber Glass, 120 mL
1901246-02	T4-PDI2019-SC12-190521-03-05	21-May-19 12:58	30-May-19 10:09	Amber Glass, 120 mL
1901246-03	T4-PDI2019-SC12-190521-05-07	21-May-19 12:58	30-May-19 10:09	Amber Glass, 120 mL
1901246-04	T4-PDI2019-SC12-190521-07-8.3	21-May-19 12:58	30-May-19 10:09	Amber Glass, 120 mL
1901246-05	FD-201905211556	21-May-19 00:00	30-May-19 10:09	Amber Glass, 120 mL
1901246-06	T4-PDI2019-SC13-190521-01-03	21-May-19 15:56	30-May-19 10:09	Amber Glass, 120 mL
1901246-07	T4-PDI2019-SC13-190521-03-05	21-May-19 15:56	30-May-19 10:09	Amber Glass, 120 mL
1901246-08	T4-PDI2019-SC13-190521-05-07	21-May-19 15:56	30-May-19 10:09	Amber Glass, 120 mL
1901246-09	T4-PDI2019-SC13-190521-07-09	21-May-19 15:56	30-May-19 10:09	Amber Glass, 120 mL
1901246-10	T4-PDI2019-SC13-190521-09-11.1	21-May-19 15:56	30-May-19 10:09	Amber Glass, 120 mL
1901246-11	FD-201905211730	21-May-19 00:00	30-May-19 10:09	Amber Glass, 120 mL
1901246-12	T4-PDI2019-SC19-190521-01-03	21-May-19 17:30	30-May-19 10:09	Amber Glass, 120 mL
1901246-13	T4-PDI2019-SC19-190521-03-05	21-May-19 17:30	30-May-19 10:09	Amber Glass, 120 mL
1901246-14	T4-PDI2019-SC19-190521-05-07	DUP21-May-19 17:30	30-May-19 10:09	Amber Glass, 120 mL Amber Glass, 120 mL
1901246-15	T4-PDI2019-SC19-190521-07-09	21-May-19 17:30	30-May-19 10:09	Amber Glass, 120 mL
1901246-16	T4-PDI2019-SC19-190521-09-11	21-May-19 17:30	30-May-19 10:09	Amber Glass, 120 mL
1901246-17	T4-PDI2019-SC19-190521-11-11.8	21-May-19 17:30	30-May-19 10:09	Amber Glass, 120 mL
1901246-18	SRM 1944	29-May-19 00:00	30-May-19 10:09	Amber Glass, 120 mL

ANALYTICAL RESULTS

Sample ID: Method Blank					EPA Method 1613B				
Matrix: Solid		QC Batch: B9F0201			Lab Sample: B9F0201-BLK1				
Sample Size: 5.00 g		Date Extracted: 21-Jun-2019 8:50			Date Analyzed : 27-Jun-19 07:03 Column: ZB-5MS				
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.199			IS	13C-2,3,7,8-TCDD	67.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.192				13C-1,2,3,7,8-PeCDD	71.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.170				13C-1,2,3,4,7,8-HxCDD	79.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.171				13C-1,2,3,6,7,8-HxCDD	79.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.171				13C-1,2,3,7,8,9-HxCDD	82.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.147				13C-1,2,3,4,6,7,8-HpCDD	92.1	23 - 140	
OCDD	ND	0.243				13C-OCDD	86.5	17 - 157	
2,3,7,8-TCDF	ND	0.179				13C-2,3,7,8-TCDF	60.4	24 - 169	
1,2,3,7,8-PeCDF	ND	0.309				13C-1,2,3,7,8-PeCDF	66.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.270				13C-2,3,4,7,8-PeCDF	66.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0814				13C-1,2,3,4,7,8-HxCDF	82.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0806				13C-1,2,3,6,7,8-HxCDF	84.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0845				13C-2,3,4,6,7,8-HxCDF	84.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.135				13C-1,2,3,7,8,9-HxCDF	84.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.117				13C-1,2,3,4,6,7,8-HpCDF	81.5	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.113				13C-1,2,3,4,7,8,9-HpCDF	90.5	26 - 138	
OCDF	ND	0.250				13C-OCDF	81.8	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	67.0	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00		
TOTALS									
Total TCDD	ND	0.199							
Total PeCDD	ND	0.192							
Total HxCDD	ND	0.171							
Total HpCDD	ND	0.147							
Total TCDF	0.580		1.51						
Total PeCDF	0.919								
Total HxCDF	ND	0.0942							
Total HpCDF	ND	0.115							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR					EPA Method 1613B		
Matrix: Solid Sample Size: 5.00 g		QC Batch: B9F0201 Date Extracted: 21-Jun-2019 8:50			Lab Sample: B9F0201-BS1 Date Analyzed: 27-Jun-19 05:28 Column: ZB-5MS		
Analyte	Amt Found (ng/Kg)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	46.1	40.0	115	67 - 158	IS 13C-2,3,7,8-TCDD	78.3	20 - 175
1,2,3,7,8-PeCDD	236	200	118	70 - 142	13C-1,2,3,7,8-PeCDD	77.7	21 - 227
1,2,3,4,7,8-HxCDD	219	200	109	70 - 164	13C-1,2,3,4,7,8-HxCDD	87.1	21 - 193
1,2,3,6,7,8-HxCDD	229	200	114	76 - 134	13C-1,2,3,6,7,8-HxCDD	87.3	25 - 163
1,2,3,7,8,9-HxCDD	218	200	109	64 - 162	13C-1,2,3,7,8,9-HxCDD	86.6	21 - 193
1,2,3,4,6,7,8-HpCDD	202	200	101	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	89.6	26 - 166
OCDD	416	400	104	78 - 144	13C-OCDD	88.0	13 - 199
2,3,7,8-TCDF	41.3	40.0	103	75 - 158	13C-2,3,7,8-TCDF	69.3	22 - 152
1,2,3,7,8-PeCDF	235	200	118	80 - 134	13C-1,2,3,7,8-PeCDF	73.4	21 - 192
2,3,4,7,8-PeCDF	232	200	116	68 - 160	13C-2,3,4,7,8-PeCDF	72.2	13 - 328
1,2,3,4,7,8-HxCDF	216	200	108	72 - 134	13C-1,2,3,4,7,8-HxCDF	88.8	19 - 202
1,2,3,6,7,8-HxCDF	217	200	109	84 - 130	13C-1,2,3,6,7,8-HxCDF	89.9	21 - 159
2,3,4,6,7,8-HxCDF	217	200	109	70 - 156	13C-2,3,4,6,7,8-HxCDF	91.1	22 - 176
1,2,3,7,8,9-HxCDF	219	200	110	78 - 130	13C-1,2,3,7,8,9-HxCDF	87.0	17 - 205
1,2,3,4,6,7,8-HpCDF	229	200	114	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	80.7	21 - 158
1,2,3,4,7,8,9-HpCDF	221	200	110	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	87.8	20 - 186
OCDF	423	400	106	63 - 170	13C-OCDF	85.6	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	71.8	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank				EPA Method 1613B				
Matrix:	Solid	QC Batch:	B9G0073	Lab Sample:	B9G0073-BLK1			
Sample Size:	5.00 g	Date Extracted:	08-Jul-2019 7:53	Date Analyzed :	12-Jul-19 17:33 Column: ZB-5MS			
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.118			IS 13C-2,3,7,8-TCDD	77.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.128			13C-1,2,3,7,8-PeCDD	72.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.194			13C-1,2,3,4,7,8-HxCDD	84.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.186			13C-1,2,3,6,7,8-HxCDD	76.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.189			13C-1,2,3,7,8,9-HxCDD	79.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.186			13C-1,2,3,4,6,7,8-HpCDD	82.6	23 - 140	
OCDD	ND	0.180			13C-OCDD	72.9	17 - 157	
2,3,7,8-TCDF	ND	0.151			13C-2,3,7,8-TCDF	70.3	24 - 169	
1,2,3,7,8-PeCDF	ND	0.150			13C-1,2,3,7,8-PeCDF	70.6	24 - 185	
2,3,4,7,8-PeCDF	ND	0.146			13C-2,3,4,7,8-PeCDF	68.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0912			13C-1,2,3,4,7,8-HxCDF	86.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0991			13C-1,2,3,6,7,8-HxCDF	81.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0961			13C-2,3,4,6,7,8-HxCDF	83.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.122			13C-1,2,3,7,8,9-HxCDF	86.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.108			13C-1,2,3,4,6,7,8-HpCDF	79.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.113			13C-1,2,3,4,7,8,9-HpCDF	81.6	26 - 138	
OCDF	ND	0.219			13C-OCDF	74.7	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	74.9	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)			
					TEQMinWHO2005Dioxin	0.00		
TOTALS								
Total TCDD	ND	0.118						
Total PeCDD	ND	0.128						
Total HxCDD	ND	0.190						
Total HpCDD	ND	0.186						
Total TCDF	ND	0.151						
Total PeCDF	ND	0.148						
Total HxCDF	ND	0.102						
Total HpCDF	ND	0.111						

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR					EPA Method 1613B				
Matrix: Solid		QC Batch: B9G0073			Lab Sample: B9G0073-BS1				
Sample Size: 5.00 g		Date Extracted: 08-Jul-2019 7:53			Date Analyzed: 12-Jul-19 14:22 Column: ZB-5MS				
Analyte	Amt Found (ng/Kg)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL	
2,3,7,8-TCDD	44.5	40.0	111	67 - 158	IS	13C-2,3,7,8-TCDD	86.7	20 - 175	
1,2,3,7,8-PeCDD	228	200	114	70 - 142		13C-1,2,3,7,8-PeCDD	80.1	21 - 227	
1,2,3,4,7,8-HxCDD	210	200	105	70 - 164		13C-1,2,3,4,7,8-HxCDD	95.4	21 - 193	
1,2,3,6,7,8-HxCDD	209	200	104	76 - 134		13C-1,2,3,6,7,8-HxCDD	87.8	25 - 163	
1,2,3,7,8,9-HxCDD	202	200	101	64 - 162		13C-1,2,3,7,8,9-HxCDD	91.3	21 - 193	
1,2,3,4,6,7,8-HpCDD	193	200	96.6	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	95.2	26 - 166	
OCDD	386	400	96.6	78 - 144		13C-OCDD	87.5	13 - 199	
2,3,7,8-TCDF	37.9	40.0	94.7	75 - 158		13C-2,3,7,8-TCDF	82.5	22 - 152	
1,2,3,7,8-PeCDF	229	200	114	80 - 134		13C-1,2,3,7,8-PeCDF	79.5	21 - 192	
2,3,4,7,8-PeCDF	220	200	110	68 - 160		13C-2,3,4,7,8-PeCDF	80.1	13 - 328	
1,2,3,4,7,8-HxCDF	208	200	104	72 - 134		13C-1,2,3,4,7,8-HxCDF	92.8	19 - 202	
1,2,3,6,7,8-HxCDF	213	200	107	84 - 130		13C-1,2,3,6,7,8-HxCDF	88.4	21 - 159	
2,3,4,6,7,8-HxCDF	220	200	110	70 - 156		13C-2,3,4,6,7,8-HxCDF	87.3	22 - 176	
1,2,3,7,8,9-HxCDF	219	200	110	78 - 130		13C-1,2,3,7,8,9-HxCDF	89.0	17 - 205	
1,2,3,4,6,7,8-HpCDF	220	200	110	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	85.8	21 - 158	
1,2,3,4,7,8,9-HpCDF	207	200	104	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	91.6	20 - 186	
OCDF	412	400	103	63 - 170		13C-OCDF	80.7	13 - 199	
						CRS	37Cl-2,3,7,8-TCDD	85.2	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: T4-PDI2019-SC12-190521-01-03					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-01	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	9.00 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 12:58		% Solids:	55.6	Date Analyzed :	19-Jul-19 22:54	Column:	DB-225	
						27-Jun-19 12:37	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.352			IS	13C-2,3,7,8-TCDD	63.7	25 - 164	
1,2,3,7,8-PeCDD	1.20			J		13C-1,2,3,7,8-PeCDD	77.2	25 - 181	
1,2,3,4,7,8-HxCDD	1.85			J		13C-1,2,3,4,7,8-HxCDD	93.0	32 - 141	
1,2,3,6,7,8-HxCDD	8.08					13C-1,2,3,6,7,8-HxCDD	88.0	28 - 130	
1,2,3,7,8,9-HxCDD	3.37			J		13C-1,2,3,7,8,9-HxCDD	95.0	32 - 141	
1,2,3,4,6,7,8-HpCDD	254					13C-1,2,3,4,6,7,8-HpCDD	102	23 - 140	
OCDD	3060					13C-OCDD	103	17 - 157	
2,3,7,8-TCDF	1.05					13C-2,3,7,8-TCDF	55.6	24 - 169	
1,2,3,7,8-PeCDF	1.95			J		13C-1,2,3,7,8-PeCDF	74.9	24 - 185	
2,3,4,7,8-PeCDF	1.37			J		13C-2,3,4,7,8-PeCDF	72.5	21 - 178	
1,2,3,4,7,8-HxCDF	8.88					13C-1,2,3,4,7,8-HxCDF	87.6	26 - 152	
1,2,3,6,7,8-HxCDF	2.48			J		13C-1,2,3,6,7,8-HxCDF	91.2	26 - 123	
2,3,4,6,7,8-HxCDF	2.19			J		13C-2,3,4,6,7,8-HxCDF	92.3	28 - 136	
1,2,3,7,8,9-HxCDF	1.16			J		13C-1,2,3,7,8,9-HxCDF	95.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	33.6					13C-1,2,3,4,6,7,8-HpCDF	95.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	3.23			J		13C-1,2,3,4,7,8,9-HpCDF	103	26 - 138	
OCDF	90.8					13C-OCDF	94.3	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	46.2	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		8.43		
TOTALS									
Total TCDD	3.42								
Total PeCDD	3.50		9.63						
Total HxCDD	79.4		80.5						
Total HpCDD	653								
Total TCDF	4.62		6.88	B					
Total PeCDF	22.8		24.3	B					
Total HxCDF	61.3								
Total HpCDF	112								

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC12-190521-03-05					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-02	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	8.21 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 12:58		% Solids:	61.3	Date Analyzed :	19-Jul-19 23:26	Column:	DB-225	
						27-Jun-19 13:25	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND		0.716		IS	13C-2,3,7,8-TCDD	67.7	25 - 164	
1,2,3,7,8-PeCDD	2.13			J		13C-1,2,3,7,8-PeCDD	80.3	25 - 181	
1,2,3,4,7,8-HxCDD	7.45					13C-1,2,3,4,7,8-HxCDD	96.5	32 - 141	
1,2,3,6,7,8-HxCDD	37.3					13C-1,2,3,6,7,8-HxCDD	90.6	28 - 130	
1,2,3,7,8,9-HxCDD	15.5					13C-1,2,3,7,8,9-HxCDD	92.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	2310					13C-1,2,3,4,6,7,8-HpCDD	97.9	23 - 140	
OCDD	15800			E		13C-OCDD	104	17 - 157	
2,3,7,8-TCDF	2.56					13C-2,3,7,8-TCDF	53.9	24 - 169	
1,2,3,7,8-PeCDF	2.57			J		13C-1,2,3,7,8-PeCDF	76.1	24 - 185	
2,3,4,7,8-PeCDF	2.98			J		13C-2,3,4,7,8-PeCDF	74.2	21 - 178	
1,2,3,4,7,8-HxCDF	10.6					13C-1,2,3,4,7,8-HxCDF	92.7	26 - 152	
1,2,3,6,7,8-HxCDF	3.96			J		13C-1,2,3,6,7,8-HxCDF	91.1	26 - 123	
2,3,4,6,7,8-HxCDF	3.98			J		13C-2,3,4,6,7,8-HxCDF	92.5	28 - 136	
1,2,3,7,8,9-HxCDF	0.943			J		13C-1,2,3,7,8,9-HxCDF	90.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	98.7					13C-1,2,3,4,6,7,8-HpCDF	88.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	7.95					13C-1,2,3,4,7,8,9-HpCDF	93.4	26 - 138	
OCDF	444					13C-OCDF	85.2	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	67.1	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		40.4		
TOTALS									
Total TCDD	4.07		5.41						
Total PeCDD	18.3		22.2						
Total HxCDD	418								
Total HpCDD	4290								
Total TCDF	15.4		18.2	B					
Total PeCDF	32.2		36.0	B					
Total HxCDF	122		123						
Total HpCDF	406								

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC12-190521-05-07					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-03	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	6.89 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 12:58		% Solids:	72.9	Date Analyzed :	19-Jul-19 23:57	Column:	DB-225	
						27-Jun-19 14:13	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND		0.394		IS	13C-2,3,7,8-TCDD	74.9	25 - 164	
1,2,3,7,8-PeCDD	1.10			J		13C-1,2,3,7,8-PeCDD	84.3	25 - 181	
1,2,3,4,7,8-HxCDD	1.90			J		13C-1,2,3,4,7,8-HxCDD	97.0	32 - 141	
1,2,3,6,7,8-HxCDD	10.8					13C-1,2,3,6,7,8-HxCDD	90.5	28 - 130	
1,2,3,7,8,9-HxCDD	4.28			J		13C-1,2,3,7,8,9-HxCDD	95.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	244					13C-1,2,3,4,6,7,8-HpCDD	96.3	23 - 140	
OCDD	2620					13C-OCDD	98.4	17 - 157	
2,3,7,8-TCDF	2.50					13C-2,3,7,8-TCDF	62.0	24 - 169	
1,2,3,7,8-PeCDF	1.77			J		13C-1,2,3,7,8-PeCDF	75.9	24 - 185	
2,3,4,7,8-PeCDF	1.20			J		13C-2,3,4,7,8-PeCDF	77.4	21 - 178	
1,2,3,4,7,8-HxCDF	4.79			J		13C-1,2,3,4,7,8-HxCDF	90.6	26 - 152	
1,2,3,6,7,8-HxCDF	2.15			J		13C-1,2,3,6,7,8-HxCDF	92.0	26 - 123	
2,3,4,6,7,8-HxCDF	1.97			J		13C-2,3,4,6,7,8-HxCDF	91.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND		0.847			13C-1,2,3,7,8,9-HxCDF	89.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	28.5					13C-1,2,3,4,6,7,8-HpCDF	89.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	2.42			J		13C-1,2,3,4,7,8,9-HpCDF	98.4	26 - 138	
OCDF	80.7					13C-OCDF	89.3	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	71.0	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		7.91		
TOTALS									
Total TCDD	0.438		2.11						
Total PeCDD	5.34		9.45						
Total HxCDD	85.1								
Total HpCDD	718								
Total TCDF	9.02		9.97	B					
Total PeCDF	18.9		20.4	B					
Total HxCDF	55.7		56.5						
Total HpCDF	99.0								

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC12-190521-07-8.3					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-04	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	6.11 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 12:58		% Solids:	82.9	Date Analyzed :	27-Jun-19 15:01	Column: ZB-5MS		
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.197			IS	13C-2,3,7,8-TCDD	75.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.143				13C-1,2,3,7,8-PeCDD	80.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.235				13C-1,2,3,4,7,8-HxCDD	90.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.234				13C-1,2,3,6,7,8-HxCDD	94.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.253				13C-1,2,3,7,8,9-HxCDD	94.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.809			J		13C-1,2,3,4,6,7,8-HpCDD	111	23 - 140	
OCDD	7.05			J		13C-OCDD	108	17 - 157	
2,3,7,8-TCDF	ND	0.144				13C-2,3,7,8-TCDF	68.2	24 - 169	
1,2,3,7,8-PeCDF	ND	0.154				13C-1,2,3,7,8-PeCDF	82.1	24 - 185	
2,3,4,7,8-PeCDF	ND	0.144				13C-2,3,4,7,8-PeCDF	78.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.104				13C-1,2,3,4,7,8-HxCDF	93.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.105				13C-1,2,3,6,7,8-HxCDF	94.7	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.112				13C-2,3,4,6,7,8-HxCDF	94.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.173				13C-1,2,3,7,8,9-HxCDF	94.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.186				13C-1,2,3,4,6,7,8-HpCDF	102	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.187				13C-1,2,3,4,7,8,9-HpCDF	111	26 - 138	
OCDF	ND	0.272				13C-OCDF	100	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	72.4	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.0102		
TOTALS									
Total TCDD	ND	0.197							
Total PeCDD	ND	0.143							
Total HxCDD	ND		0.371						
Total HpCDD	1.87								
Total TCDF	ND	0.144							
Total PeCDF	ND	0.149							
Total HxCDF	ND	0.122							
Total HpCDF	ND	0.187							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: FD-201905211556					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-05	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	6.92 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 0:00		% Solids:	72.3	Date Analyzed :	27-Jun-19 15:48	Column: ZB-5MS		
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.212			IS	13C-2,3,7,8-TCDD	69.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.211				13C-1,2,3,7,8-PeCDD	69.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.207				13C-1,2,3,4,7,8-HxCDD	84.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.224				13C-1,2,3,6,7,8-HxCDD	83.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.230				13C-1,2,3,7,8,9-HxCDD	87.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.747			J		13C-1,2,3,4,6,7,8-HpCDD	95.6	23 - 140	
OCDD	5.89			J		13C-OCDD	97.5	17 - 157	
2,3,7,8-TCDF	ND	0.145				13C-2,3,7,8-TCDF	60.7	24 - 169	
1,2,3,7,8-PeCDF	ND	0.168				13C-1,2,3,7,8-PeCDF	64.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.152				13C-2,3,4,7,8-PeCDF	64.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0939				13C-1,2,3,4,7,8-HxCDF	81.4	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0943				13C-1,2,3,6,7,8-HxCDF	83.8	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.105				13C-2,3,4,6,7,8-HxCDF	86.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.169				13C-1,2,3,7,8,9-HxCDF	81.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.155				13C-1,2,3,4,6,7,8-HpCDF	84.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.142				13C-1,2,3,4,7,8,9-HpCDF	93.5	26 - 138	
OCDF	ND	0.216				13C-OCDF	90.3	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	60.5	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00924		
TOTALS									
Total TCDD	ND	0.212							
Total PeCDD	ND	0.211							
Total HxCDD	ND		0.387						
Total HpCDD	1.79								
Total TCDF	ND	0.145							
Total PeCDF	ND	0.160							
Total HxCDF	ND	0.113							
Total HpCDF	ND	0.149							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC13-190521-01-03					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-06	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	8.87 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 15:56		% Solids:	56.6	Date Analyzed :	28-Jun-19 01:42	Column: ZB-5MS		
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.215			IS	13C-2,3,7,8-TCDD	74.9	25 - 164	
1,2,3,7,8-PeCDD	ND		0.240			13C-1,2,3,7,8-PeCDD	77.1	25 - 181	
1,2,3,4,7,8-HxCDD	0.507			J		13C-1,2,3,4,7,8-HxCDD	88.0	32 - 141	
1,2,3,6,7,8-HxCDD	2.31			J		13C-1,2,3,6,7,8-HxCDD	87.1	28 - 130	
1,2,3,7,8,9-HxCDD	0.797			J		13C-1,2,3,7,8,9-HxCDD	89.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	45.5					13C-1,2,3,4,6,7,8-HpCDD	97.7	23 - 140	
OCDD	391					13C-OCDD	91.0	17 - 157	
2,3,7,8-TCDF	0.693			J		13C-2,3,7,8-TCDF	62.5	24 - 169	
1,2,3,7,8-PeCDF	0.919			J		13C-1,2,3,7,8-PeCDF	73.0	24 - 185	
2,3,4,7,8-PeCDF	0.428			J		13C-2,3,4,7,8-PeCDF	68.6	21 - 178	
1,2,3,4,7,8-HxCDF	2.64			J		13C-1,2,3,4,7,8-HxCDF	92.3	26 - 152	
1,2,3,6,7,8-HxCDF	ND		0.924			13C-1,2,3,6,7,8-HxCDF	92.8	26 - 123	
2,3,4,6,7,8-HxCDF	0.530			J		13C-2,3,4,6,7,8-HxCDF	91.9	28 - 136	
1,2,3,7,8,9-HxCDF	0.366			J		13C-1,2,3,7,8,9-HxCDF	94.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	6.16					13C-1,2,3,4,6,7,8-HpCDF	96.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	1.09			J		13C-1,2,3,4,7,8,9-HpCDF	101	26 - 138	
OCDF	13.5					13C-OCDF	90.1	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	71.7	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		1.59		
TOTALS									
Total TCDD	ND		0.327						
Total PeCDD	0.747		1.28						
Total HxCDD	15.8		16.3						
Total HpCDD	112								
Total TCDF	1.12		1.91	B					
Total PeCDF	7.06			B					
Total HxCDF	13.8		14.7						
Total HpCDF	21.9								

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC13-190521-03-05					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-07	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	6.88 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 15:56		% Solids:	72.7	Date Analyzed :	20-Jul-19 00:29	Column:	DB-225	
						28-Jun-19 02:29	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	0.858			J	IS	13C-2,3,7,8-TCDD	47.0	25 - 164	
1,2,3,7,8-PeCDD	ND		1.49			13C-1,2,3,7,8-PeCDD	67.7	25 - 181	
1,2,3,4,7,8-HxCDD	3.03			J		13C-1,2,3,4,7,8-HxCDD	84.4	32 - 141	
1,2,3,6,7,8-HxCDD	19.5					13C-1,2,3,6,7,8-HxCDD	84.8	28 - 130	
1,2,3,7,8,9-HxCDD	7.41					13C-1,2,3,7,8,9-HxCDD	92.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	372					13C-1,2,3,4,6,7,8-HpCDD	103	23 - 140	
OCDD	3440					13C-OCDD	97.7	17 - 157	
2,3,7,8-TCDF	2.83					13C-2,3,7,8-TCDF	35.0	24 - 169	
1,2,3,7,8-PeCDF	4.34			J		13C-1,2,3,7,8-PeCDF	58.5	24 - 185	
2,3,4,7,8-PeCDF	2.96			J		13C-2,3,4,7,8-PeCDF	55.4	21 - 178	
1,2,3,4,7,8-HxCDF	10.4					13C-1,2,3,4,7,8-HxCDF	85.0	26 - 152	
1,2,3,6,7,8-HxCDF	4.17			J		13C-1,2,3,6,7,8-HxCDF	88.5	26 - 123	
2,3,4,6,7,8-HxCDF	3.35			J		13C-2,3,4,6,7,8-HxCDF	92.3	28 - 136	
1,2,3,7,8,9-HxCDF	1.03			J		13C-1,2,3,7,8,9-HxCDF	95.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	46.2					13C-1,2,3,4,6,7,8-HpCDF	96.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	3.97			J		13C-1,2,3,4,7,8,9-HpCDF	101	26 - 138	
OCDF	109					13C-OCDF	94.1	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	36.2	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		12.3		
TOTALS									
Total TCDD	2.65		4.77						
Total PeCDD	8.78		13.1						
Total HxCDD	116		118						
Total HpCDD	798								
Total TCDF	17.9		18.5	B					
Total PeCDF	39.3		42.4	B					
Total HxCDF	92.4		93.2						
Total HpCDF	151								

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC13-190521-05-07					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-08	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.80 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 15:56		% Solids:	66.9	Date Analyzed :	28-Jun-19 03:17	Column: ZB-5MS		
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.215			IS	13C-2,3,7,8-TCDD	50.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.245				13C-1,2,3,7,8-PeCDD	61.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.277				13C-1,2,3,4,7,8-HxCDD	75.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.277				13C-1,2,3,6,7,8-HxCDD	77.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.280				13C-1,2,3,7,8,9-HxCDD	82.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.576			J		13C-1,2,3,4,6,7,8-HpCDD	92.5	23 - 140	
OCDD	4.77			J		13C-OCDD	92.4	17 - 157	
2,3,7,8-TCDF	ND	0.163				13C-2,3,7,8-TCDF	41.8	24 - 169	
1,2,3,7,8-PeCDF	ND	0.230				13C-1,2,3,7,8-PeCDF	53.8	24 - 185	
2,3,4,7,8-PeCDF	ND	0.210				13C-2,3,4,7,8-PeCDF	51.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0726				13C-1,2,3,4,7,8-HxCDF	79.4	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0706				13C-1,2,3,6,7,8-HxCDF	83.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0749				13C-2,3,4,6,7,8-HxCDF	88.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.118				13C-1,2,3,7,8,9-HxCDF	87.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.119				13C-1,2,3,4,6,7,8-HpCDF	91.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.118				13C-1,2,3,4,7,8,9-HpCDF	94.6	26 - 138	
OCDF	ND	0.172				13C-OCDF	93.6	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	47.3	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00719		
TOTALS									
Total TCDD	ND	0.215							
Total PeCDD	ND	0.245							
Total HxCDD	ND		0.584						
Total HpCDD	1.50								
Total TCDF	ND	0.163							
Total PeCDF	ND	0.220							
Total HxCDF	ND	0.0832							
Total HpCDF	ND	0.119							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC13-190521-07-09					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-09	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.39 g	QC Batch:	B9G0073	Date Extracted:	08-Jul-2019 7:53	
Date Collected:	21-May-2019 15:56		% Solids:	68.0	Date Analyzed :	12-Jul-19 19:56	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.132			IS	13C-2,3,7,8-TCDD	81.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.128				13C-1,2,3,7,8-PeCDD	77.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.204				13C-1,2,3,4,7,8-HxCDD	84.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.204				13C-1,2,3,6,7,8-HxCDD	79.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.214				13C-1,2,3,7,8,9-HxCDD	79.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.666			J		13C-1,2,3,4,6,7,8-HpCDD	81.7	23 - 140	
OCDD	5.20			J		13C-OCDD	72.8	17 - 157	
2,3,7,8-TCDF	ND	0.131				13C-2,3,7,8-TCDF	74.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.120				13C-1,2,3,7,8-PeCDF	76.9	24 - 185	
2,3,4,7,8-PeCDF	ND	0.118				13C-2,3,4,7,8-PeCDF	73.4	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0717				13C-1,2,3,4,7,8-HxCDF	87.3	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0738				13C-1,2,3,6,7,8-HxCDF	83.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0770				13C-2,3,4,6,7,8-HxCDF	85.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0988				13C-1,2,3,7,8,9-HxCDF	87.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0910				13C-1,2,3,4,6,7,8-HpCDF	83.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.100				13C-1,2,3,4,7,8,9-HpCDF	78.8	26 - 138	
OCDF	ND	0.196				13C-OCDF	72.2	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	84.7	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00822		
TOTALS									
Total TCDD	0.339								
Total PeCDD	ND	0.128							
Total HxCDD	0.521								
Total HpCDD	1.77								
Total TCDF	ND	0.131							
Total PeCDF	ND	0.119							
Total HxCDF	ND	0.0799							
Total HpCDF	ND	0.0951							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC13-190521-09-11.1					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-10	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	6.97 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 15:56		% Solids:	71.9	Date Analyzed :	28-Jun-19 06:42	Column: ZB-5MS		
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.145			IS	13C-2,3,7,8-TCDD	71.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.276				13C-1,2,3,7,8-PeCDD	67.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.236				13C-1,2,3,4,7,8-HxCDD	82.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.253				13C-1,2,3,6,7,8-HxCDD	81.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.256				13C-1,2,3,7,8,9-HxCDD	86.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.656			J		13C-1,2,3,4,6,7,8-HpCDD	103	23 - 140	
OCDD	6.57			J		13C-OCDD	91.6	17 - 157	
2,3,7,8-TCDF	ND	0.177				13C-2,3,7,8-TCDF	65.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.246				13C-1,2,3,7,8-PeCDF	64.0	24 - 185	
2,3,4,7,8-PeCDF	ND	0.234				13C-2,3,4,7,8-PeCDF	62.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0690				13C-1,2,3,4,7,8-HxCDF	86.3	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0740				13C-1,2,3,6,7,8-HxCDF	88.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0769				13C-2,3,4,6,7,8-HxCDF	88.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.120				13C-1,2,3,7,8,9-HxCDF	92.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.102				13C-1,2,3,4,6,7,8-HpCDF	94.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.100				13C-1,2,3,4,7,8,9-HpCDF	102	26 - 138	
OCDF	ND	0.173				13C-OCDF	91.8	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	59.6	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00853		
TOTALS									
Total TCDD	0.627								
Total PeCDD	ND	0.276							
Total HxCDD	0.593								
Total HpCDD	1.82								
Total TCDF	ND	0.177							
Total PeCDF	ND	0.240							
Total HxCDF	ND	0.0843							
Total HpCDF	ND	0.101							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: FD-201905211730					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-11	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.20 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 0:00		% Solids:	70.0	Date Analyzed :	28-Jun-19 07:30	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.223			IS	13C-2,3,7,8-TCDD	76.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.267				13C-1,2,3,7,8-PeCDD	71.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.269				13C-1,2,3,4,7,8-HxCDD	81.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.264				13C-1,2,3,6,7,8-HxCDD	87.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.278				13C-1,2,3,7,8,9-HxCDD	85.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	6.71					13C-1,2,3,4,6,7,8-HpCDD	96.5	23 - 140	
OCDD	55.4					13C-OCDD	95.5	17 - 157	
2,3,7,8-TCDF	ND	0.218				13C-2,3,7,8-TCDF	67.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.244				13C-1,2,3,7,8-PeCDF	70.0	24 - 185	
2,3,4,7,8-PeCDF	ND	0.271				13C-2,3,4,7,8-PeCDF	65.1	21 - 178	
1,2,3,4,7,8-HxCDF	ND		0.261			13C-1,2,3,4,7,8-HxCDF	88.5	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0757				13C-1,2,3,6,7,8-HxCDF	89.7	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0768				13C-2,3,4,6,7,8-HxCDF	91.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.126				13C-1,2,3,7,8,9-HxCDF	91.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	0.889			J		13C-1,2,3,4,6,7,8-HpCDF	90.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.156				13C-1,2,3,4,7,8,9-HpCDF	97.2	26 - 138	
OCDF	1.50			J		13C-OCDF	93.3	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	70.9	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.0931		
TOTALS									
Total TCDD	ND	0.223							
Total PeCDD	ND	0.267							
Total HxCDD	3.73								
Total HpCDD	17.9								
Total TCDF	ND	0.218							
Total PeCDF	ND	0.257							
Total HxCDF	ND		1.10						
Total HpCDF	2.48								

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC19-190521-01-03					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-12	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.31 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 17:30		% Solids:	68.7	Date Analyzed :	28-Jun-19 08:18	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.152			IS	13C-2,3,7,8-TCDD	85.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.273				13C-1,2,3,7,8-PeCDD	74.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.295				13C-1,2,3,4,7,8-HxCDD	86.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.298				13C-1,2,3,6,7,8-HxCDD	89.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.317				13C-1,2,3,7,8,9-HxCDD	90.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	2.03			J		13C-1,2,3,4,6,7,8-HpCDD	102	23 - 140	
OCDD	10.6					13C-OCDD	94.2	17 - 157	
2,3,7,8-TCDF	ND	0.123				13C-2,3,7,8-TCDF	77.1	24 - 169	
1,2,3,7,8-PeCDF	ND	0.194				13C-1,2,3,7,8-PeCDF	73.2	24 - 185	
2,3,4,7,8-PeCDF	ND	0.185				13C-2,3,4,7,8-PeCDF	72.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.119				13C-1,2,3,4,7,8-HxCDF	89.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.123				13C-1,2,3,6,7,8-HxCDF	91.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.129				13C-2,3,4,6,7,8-HxCDF	92.3	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.201				13C-1,2,3,7,8,9-HxCDF	94.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.103				13C-1,2,3,4,6,7,8-HpCDF	97.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.110				13C-1,2,3,4,7,8,9-HpCDF	100	26 - 138	
OCDF	ND	0.236				13C-OCDF	90.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	74.3	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.0235		
TOTALS									
Total TCDD	ND	0.152							
Total PeCDD	ND	0.273							
Total HxCDD	1.53								
Total HpCDD	4.90								
Total TCDF	ND	0.123							
Total PeCDF	ND	0.189							
Total HxCDF	ND	0.141							
Total HpCDF	0.341								

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC19-190521-03-05					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-13	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.38 g	QC Batch:	B9G0073	Date Extracted:	08-Jul-2019 7:53	
Date Collected:	21-May-2019 17:30		% Solids:	67.9	Date Analyzed :	12-Jul-19 20:44	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.135			IS	13C-2,3,7,8-TCDD	58.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.218				13C-1,2,3,7,8-PeCDD	61.7	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.334				13C-1,2,3,4,7,8-HxCDD	72.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.328				13C-1,2,3,6,7,8-HxCDD	68.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.314				13C-1,2,3,7,8,9-HxCDD	72.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.44			J		13C-1,2,3,4,6,7,8-HpCDD	79.9	23 - 140	
OCDD	12.6					13C-OCDD	70.1	17 - 157	
2,3,7,8-TCDF	ND	0.148				13C-2,3,7,8-TCDF	49.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.140				13C-1,2,3,7,8-PeCDF	57.8	24 - 185	
2,3,4,7,8-PeCDF	ND	0.145				13C-2,3,4,7,8-PeCDF	55.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0830				13C-1,2,3,4,7,8-HxCDF	77.5	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0842				13C-1,2,3,6,7,8-HxCDF	75.8	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0859				13C-2,3,4,6,7,8-HxCDF	76.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.115				13C-1,2,3,7,8,9-HxCDF	76.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0927				13C-1,2,3,4,6,7,8-HpCDF	78.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.105				13C-1,2,3,4,7,8,9-HpCDF	78.1	26 - 138	
OCDF	ND	0.251				13C-OCDF	70.7	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	61.9	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.0182		
TOTALS									
Total TCDD	0.641								
Total PeCDD	ND	0.218							
Total HxCDD	1.06								
Total HpCDD	4.22								
Total TCDF	ND	0.148							
Total PeCDF	ND	0.142							
Total HxCDF	ND	0.0914							
Total HpCDF	ND	0.0985							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC19-190521-05-07					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-14	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.32 g	QC Batch:	B9G0073	Date Extracted:	08-Jul-2019 7:53	
Date Collected:	21-May-2019 17:30		% Solids:	68.3	Date Analyzed :	12-Jul-19 21:32	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.137			IS	13C-2,3,7,8-TCDD	76.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.133				13C-1,2,3,7,8-PeCDD	82.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.227				13C-1,2,3,4,7,8-HxCDD	89.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.230				13C-1,2,3,6,7,8-HxCDD	78.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.224				13C-1,2,3,7,8,9-HxCDD	85.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.195				13C-1,2,3,4,6,7,8-HpCDD	85.8	23 - 140	
OCDD	2.32			J		13C-OCDD	82.7	17 - 157	
2,3,7,8-TCDF	ND	0.0970				13C-2,3,7,8-TCDF	68.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.152				13C-1,2,3,7,8-PeCDF	73.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.140				13C-2,3,4,7,8-PeCDF	73.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0869				13C-1,2,3,4,7,8-HxCDF	93.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0888				13C-1,2,3,6,7,8-HxCDF	89.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0878				13C-2,3,4,6,7,8-HxCDF	91.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.117				13C-1,2,3,7,8,9-HxCDF	93.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0851				13C-1,2,3,4,6,7,8-HpCDF	84.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0983				13C-1,2,3,4,7,8,9-HpCDF	83.9	26 - 138	
OCDF	ND	0.194				13C-OCDF	82.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	75.3	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.000696		
TOTALS									
Total TCDD	ND	0.137							
Total PeCDD	ND	0.133							
Total HxCDD	ND	0.227							
Total HpCDD	ND		0.345						
Total TCDF	ND	0.0970							
Total PeCDF	ND	0.146							
Total HxCDF	ND	0.0944							
Total HpCDF	ND	0.0914							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: Duplicate					EPA Method 1613B				
Source Client ID: T4-PDI2019-SC19-190521-05-07		QC Batch: B9G0073		Lab Sample: B9G0073-DUP1					
Source LabNumber: 1901246-14		Date Extracted: 08-Jul-2019 7:53		Date Analyzed: 12-Jul-19 22:19 Column: ZB-5MS					
Matrix: Solid									
Sample Size: 7.32 g									
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	0.111			IS 13C-2,3,7,8-TCDD	82.9	25 - 164		
1,2,3,7,8-PeCDD	ND	0.134			13C-1,2,3,7,8-PeCDD	77.8	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.162			13C-1,2,3,4,7,8-HxCDD	85.6	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.160			13C-1,2,3,6,7,8-HxCDD	78.3	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.164			13C-1,2,3,7,8,9-HxCDD	80.4	32 - 141		
1,2,3,4,6,7,8-HpCDD	ND	0.203			13C-1,2,3,4,6,7,8-HpCDD	84.1	23 - 140		
OCDD	2.59			J	13C-OCDD	78.0	17 - 157		
2,3,7,8-TCDF	ND	0.0882			13C-2,3,7,8-TCDF	77.1	24 - 169		
1,2,3,7,8-PeCDF	ND	0.161			13C-1,2,3,7,8-PeCDF	77.6	24 - 185		
2,3,4,7,8-PeCDF	ND	0.163			13C-2,3,4,7,8-PeCDF	75.2	21 - 178		
1,2,3,4,7,8-HxCDF	ND	0.0682			13C-1,2,3,4,7,8-HxCDF	94.2	26 - 152		
1,2,3,6,7,8-HxCDF	ND	0.0700			13C-1,2,3,6,7,8-HxCDF	89.0	26 - 123		
2,3,4,6,7,8-HxCDF	ND	0.0702			13C-2,3,4,6,7,8-HxCDF	89.0	28 - 136		
1,2,3,7,8,9-HxCDF	ND	0.0909			13C-1,2,3,7,8,9-HxCDF	89.7	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	0.0859			13C-1,2,3,4,6,7,8-HpCDF	88.2	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	0.0966			13C-1,2,3,4,7,8,9-HpCDF	87.1	26 - 138		
OCDF	ND	0.216			13C-OCDF	80.7	17 - 157		
					CRS 37Cl-2,3,7,8-TCDD	78.8	35 - 197		
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.000777		
TOTALS									
Total TCDD	0.247								
Total PeCDD	ND	0.134							
Total HxCDD	0.373								
Total HpCDD	ND	0.203							
Total TCDF	ND		0.134						
Total PeCDF	ND	0.162							
Total HxCDF	ND	0.0743							
Total HpCDF	ND	0.0909							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

The results are reported in dry weight.

The sample size is reported in wet weight.

Sample ID: Duplicate					EPA Method 1613B				
Source Client ID: T4-PDI2019-SC19-190521-05-07 Source LabNumber: 1901246-14 Matrix: Solid					Duplicate Lab Sample: B9G0073-DUP1				
Analyte	Dup Conc. (ng/Kg)	Source Conc.	RPD	RPD Limits	Labeled Standard	Dup %R	Source %R	LCL-UCL	
2,3,7,8-TCDD	ND	ND	NA	25	IS 13C-2,3,7,8-TCDD	82.9	76.2	25 - 164	
1,2,3,7,8-PeCDD	ND	ND	NA	25	13C-1,2,3,7,8-PeCDD	77.8	82.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	ND	NA	25	13C-1,2,3,4,7,8-HxCDD	85.6	89.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	ND	NA	25	13C-1,2,3,6,7,8-HxCDD	78.3	78.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	ND	NA	25	13C-1,2,3,7,8,9-HxCDD	80.4	85.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	ND	NA	25	13C-1,2,3,4,6,7,8-HpCDD	84.1	85.8	23 - 140	
OCDD	2.59	2.32	10.9	25	13C-OCDD	78.0	82.7	17 - 157	
2,3,7,8-TCDF	ND	ND	NA	25	13C-2,3,7,8-TCDF	77.1	68.0	24 - 169	
1,2,3,7,8-PeCDF	ND	ND	NA	25	13C-1,2,3,7,8-PeCDF	77.6	73.5	24 - 185	
2,3,4,7,8-PeCDF	ND	ND	NA	25	13C-2,3,4,7,8-PeCDF	75.2	73.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	ND	NA	25	13C-1,2,3,4,7,8-HxCDF	94.2	93.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND	ND	NA	25	13C-1,2,3,6,7,8-HxCDF	89.0	89.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	ND	NA	25	13C-2,3,4,6,7,8-HxCDF	89.0	91.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	ND	NA	25	13C-1,2,3,7,8,9-HxCDF	89.7	93.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	ND	NA	25	13C-1,2,3,4,6,7,8-HpCDF	88.2	84.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	ND	NA	25	13C-1,2,3,4,7,8,9-HpCDF	87.1	83.9	26 - 138	
OCDF	ND	ND	NA	25	13C-OCDF	80.7	82.9	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	78.8	75.3	35 - 197	

LCL-UCL - Lower control limit - upper control limit
The results are reported in dry weight.
The sample size is reported in wet weight.Results
reported to the MDL

Sample ID: T4-PDI2019-SC19-190521-07-09					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-15	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.31 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 17:30		% Solids:	68.4	Date Analyzed :	28-Jun-19 10:41	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.302			IS	13C-2,3,7,8-TCDD	57.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.247				13C-1,2,3,7,8-PeCDD	57.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.495				13C-1,2,3,4,7,8-HxCDD	70.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.458				13C-1,2,3,6,7,8-HxCDD	74.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.501				13C-1,2,3,7,8,9-HxCDD	78.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.17			J		13C-1,2,3,4,6,7,8-HpCDD	95.8	23 - 140	
OCDD	12.4					13C-OCDD	89.1	17 - 157	
2,3,7,8-TCDF	ND	0.272				13C-2,3,7,8-TCDF	52.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.225				13C-1,2,3,7,8-PeCDF	55.7	24 - 185	
2,3,4,7,8-PeCDF	ND	0.243				13C-2,3,4,7,8-PeCDF	52.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0928				13C-1,2,3,4,7,8-HxCDF	77.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0972				13C-1,2,3,6,7,8-HxCDF	79.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0964				13C-2,3,4,6,7,8-HxCDF	83.3	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.177				13C-1,2,3,7,8,9-HxCDF	81.3	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.130				13C-1,2,3,4,6,7,8-HpCDF	91.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.135				13C-1,2,3,4,7,8,9-HpCDF	90.3	26 - 138	
OCDF	ND	0.244				13C-OCDF	89.8	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	45.0	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.0154		
TOTALS									
Total TCDD	ND	0.302							
Total PeCDD	ND	0.247							
Total HxCDD	1.08								
Total HpCDD	3.16								
Total TCDF	ND	0.272							
Total PeCDF	ND	0.234							
Total HxCDF	ND	0.114							
Total HpCDF	ND	0.133							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC19-190521-09-11					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-16	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	8.00 g	QC Batch:	B9G0073	Date Extracted:	08-Jul-2019 7:53	
Date Collected:	21-May-2019 17:30		% Solids:	62.7	Date Analyzed :	12-Jul-19 23:07	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0908			IS	13C-2,3,7,8-TCDD	89.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.154				13C-1,2,3,7,8-PeCDD	80.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.338				13C-1,2,3,4,7,8-HxCDD	88.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.361				13C-1,2,3,6,7,8-HxCDD	81.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.328				13C-1,2,3,7,8,9-HxCDD	84.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		0.632			13C-1,2,3,4,6,7,8-HpCDD	85.9	23 - 140	
OCDD	7.18			J		13C-OCDD	78.8	17 - 157	
2,3,7,8-TCDF	ND	0.106				13C-2,3,7,8-TCDF	87.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.141				13C-1,2,3,7,8-PeCDF	79.7	24 - 185	
2,3,4,7,8-PeCDF	ND	0.131				13C-2,3,4,7,8-PeCDF	79.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0770				13C-1,2,3,4,7,8-HxCDF	97.1	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0806				13C-1,2,3,6,7,8-HxCDF	90.5	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0866				13C-2,3,4,6,7,8-HxCDF	90.8	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.114				13C-1,2,3,7,8,9-HxCDF	90.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0880				13C-1,2,3,4,6,7,8-HpCDF	87.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0954				13C-1,2,3,4,7,8,9-HpCDF	86.1	26 - 138	
OCDF	ND	0.178				13C-OCDF	80.3	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	83.6	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00215		
TOTALS									
Total TCDD	0.570								
Total PeCDD	ND		0.281						
Total HxCDD	0.824								
Total HpCDD	1.74		2.37						
Total TCDF	ND	0.106							
Total PeCDF	ND	0.136							
Total HxCDF	ND	0.0887							
Total HpCDF	ND	0.0915							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: T4-PDI2019-SC19-190521-11-11.8					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901246-17	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	7.66 g	QC Batch:	B9F0201	Date Extracted:	21-Jun-2019 8:50	
Date Collected:	21-May-2019 17:30		% Solids:	65.7	Date Analyzed :	28-Jun-19 12:16	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.180			IS	13C-2,3,7,8-TCDD	90.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.258				13C-1,2,3,7,8-PeCDD	75.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.398				13C-1,2,3,4,7,8-HxCDD	83.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.412				13C-1,2,3,6,7,8-HxCDD	80.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.460				13C-1,2,3,7,8,9-HxCDD	80.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.59			J		13C-1,2,3,4,6,7,8-HpCDD	87.7	23 - 140	
OCDD	16.5					13C-OCDD	77.6	17 - 157	
2,3,7,8-TCDF	ND	0.150				13C-2,3,7,8-TCDF	80.1	24 - 169	
1,2,3,7,8-PeCDF	ND	0.206				13C-1,2,3,7,8-PeCDF	74.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.216				13C-2,3,4,7,8-PeCDF	71.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0983				13C-1,2,3,4,7,8-HxCDF	86.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.100				13C-1,2,3,6,7,8-HxCDF	88.5	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.114				13C-2,3,4,6,7,8-HxCDF	86.6	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.179				13C-1,2,3,7,8,9-HxCDF	88.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.132				13C-1,2,3,4,6,7,8-HpCDF	82.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.137				13C-1,2,3,4,7,8,9-HpCDF	88.5	26 - 138	
OCDF	ND	0.244				13C-OCDF	79.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	87.5	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.0209		
TOTALS									
Total TCDD	0.592								
Total PeCDD	ND	0.258							
Total HxCDD	1.43								
Total HpCDD	4.57								
Total TCDF	ND	0.150							
Total PeCDF	ND	0.211							
Total HxCDF	ND	0.121							
Total HpCDF	ND	0.134							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID:

VISTA-20190521-183600

POC: # Cindy Fields ((206)-903-3394)

Project: Port of Portland T4 PDI

Sample Custodian:

CJ

1201 3rd Avenue, Suite 2600, Seattle, WA 98101

Client: The Port of Portland

1901246 Lab: 1.4°C, 1.3°C

Vista Analytical Laboratory

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	T4-PDI2019-SC12-190521-01-03	N	SE	05/21/2019	12:58	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
002	T4-PDI2019-SC12-190521-03-05	N	SE	05/21/2019	12:58	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
003	T4-PDI2019-SC12-190521-05-07	N	SE	05/21/2019	12:58	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
004	T4-PDI2019-SC12-190521-07-8.3	N	SE	05/21/2019	12:58	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
005	FD-201905211556	FD	SE	05/21/2019		1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
006	T4-PDI2019-SC13-190521-01-03	N	SE	05/21/2019	15:56	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
007	T4-PDI2019-SC13-190521-03-05	N	SE	05/21/2019	15:56	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
008	T4-PDI2019-SC13-190521-05-07	N	SE	05/21/2019	15:56	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
009	T4-PDI2019-SC13-190521-07-09	N	SE	05/21/2019	15:56	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
010	T4-PDI2019-SC13-190521-09-11.1	N	SE	05/21/2019	15:56	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <i>Cindy Fields</i>	Signature <i>D. Thomas</i>	Signature <i>Tanna Godfrey</i>	Signature <i>Ashley Mason</i>	Signature	Signature
Print Name <i>Cindy Fields</i>	Print Name	Print Name <i>Tanna Godfrey</i>	Print Name <i>Ashley Mason</i>	Print Name	Print Name
Company <i>Anchor OEA</i>	Company <i>APEX</i>	Company <i>APEX</i>	Company <i>Vista</i>	Company	Company
Date/Time <i>05/25/19 0645</i>	Date/Time <i>05/25/19 0645</i>	Date/Time <i>5-29-19 12:25</i>	Date/Time <i>05/30/19 1609</i>	Date/Time	Date/Time

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

POC: # Cindy Fields ((206)-903-3394)

1201 3rd Avenue, Suite 2600, Seattle, WA 98101

Project: Port of Portland T4 PDI

Client: The Port of Portland

COC ID:

VISTA-20190521-183600

Sample Custodian:

JF

Lab:

Vista Analytical Laboratory

1901246

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
011	FD-201905211730	FD	SE	05/21/2019		1	<input type="checkbox"/>				
								Dioxins and Furans	E1613B	30	0-6 °C
012	T4-PDI2019-SC19-190521-01-03	N	SE	05/21/2019	17:30	1	<input type="checkbox"/>				
								Dioxins and Furans	E1613B	30	0-6 °C
013	T4-PDI2019-SC19-190521-03-05	N	SE	05/21/2019	17:30	1	<input type="checkbox"/>				
								Dioxins and Furans	E1613B	30	0-6 °C
014	T4-PDI2019-SC19-190521-05-07	N	SE	05/21/2019	17:30	2	<input checked="" type="checkbox"/>				
								Dioxins and Furans	E1613B	30	0-6 °C
015	T4-PDI2019-SC19-190521-07-09	N	SE	05/21/2019	17:30	1	<input type="checkbox"/>				
								Dioxins and Furans	E1613B	30	0-6 °C
016	T4-PDI2019-SC19-190521-09-11	N	SE	05/21/2019	17:30	1	<input type="checkbox"/>				
								Dioxins and Furans	E1613B	30	0-6 °C
017	T4-PDI2019-SC19-190521-11-11.8	N	SE	05/21/2019	17:30	1	<input type="checkbox"/>				
								Dioxins and Furans	E1613B	30	0-6 °C

Comment:					
Relinquished By:		Received By:		Relinquished By:	
Signature	Signature	Signature	Signature	Signature	Signature
Print Name	Print Name	Print Name	Print Name	Print Name	Print Name
Company	Company	Company	Company	Company	Company
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time
Casey Janisch	D. Thomas	Tanna Grahney	Ashley Mason		
Anchor OEA	Apex	Apex	Vista		
05/25/19 0645	05/25/19 0645	5-29-19 12:25	05/30/19 1009		

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

Sample Log-In Checklist

 Page # 2 of 2

 Vista Work Order #: 1901246

 TAT Std

Samples Arrival:	Date/Time: <u>05/30/19 1009</u>	Initials: <u>ajr</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time: <u>05/30/19 1638</u>	Initials: <u>MBB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>G4</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
	<input type="checkbox"/> GSO	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: <u>1.4</u> (uncorrected)	Probe used: Y / <input checked="" type="checkbox"/> N		Thermometer ID: <u>IK-3</u>
Temp °C: <u>1.4</u> (corrected)			

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill <u>2 of 2</u> Trk # <u>7753 3804 0882</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Container Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC Anomaly/Sample Acceptance Form completed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Preservation Documented:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> NA
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	

Comments: FD-201905211556
 ↓ 1730
T4-PDI2019-SC19-190521-05-07 AB
 ↓
T4-PDI2019-SC12-190521-01-03
 ↓
 -03-05
 -05-07
 -07-8.3

T4-PDI2019-SC13-190521-01-03
 ↓
 03-05
 05-07
 07-09
 09-11.1

EXTRACTION INFORMATION

Process Sheet
Workorder: **1901246**

Prep Expiration: 2020-05-20
Client: Anchor QEA, LLC

Workorder Due: 20-Jun-19 00:00

TAT: 21

Method: **1613 Full List**
Matrix: **Solid**
Client Matrix: Sediment
Also run: **Percent Solids**

Prep Batch: B9F0201
Prep Data Entered: AO 06/26/19
Date and Initials
Initial Sequence: 59F0062

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1901246-01	<input checked="" type="checkbox"/>	T4-PDI2019-SC12-190521-01-03	30-May-19 10:09	WR-2 G-4	
1901246-02	<input checked="" type="checkbox"/>	T4-PDI2019-SC12-190521-03-05	30-May-19 10:09	WR-2 G-4	
1901246-03	<input checked="" type="checkbox"/>	T4-PDI2019-SC12-190521-05-07	30-May-19 10:09	WR-2 G-4	
1901246-04	<input checked="" type="checkbox"/>	T4-PDI2019-SC12-190521-07-8.3	30-May-19 10:09	WR-2 G-4	
1901246-05	<input checked="" type="checkbox"/>	FD-201905211556	30-May-19 10:09	WR-2 G-4	
1901246-06	<input checked="" type="checkbox"/>	T4-PDI2019-SC13-190521-01-03	30-May-19 10:09	WR-2 G-4	
1901246-07	<input checked="" type="checkbox"/>	T4-PDI2019-SC13-190521-03-05	30-May-19 10:09	WR-2 G-4	
1901246-08	<input checked="" type="checkbox"/>	T4-PDI2019-SC13-190521-05-07	30-May-19 10:09	WR-2 G-4	
1901246-09	<input checked="" type="checkbox"/>	T4-PDI2019-SC13-190521-07-09	30-May-19 10:09	WR-2 G-4	
1901246-10	<input checked="" type="checkbox"/>	T4-PDI2019-SC13-190521-09-11.1	30-May-19 10:09	WR-2 G-4	
1901246-11	<input checked="" type="checkbox"/>	FD-201905211730	30-May-19 10:09	WR-2 G-4	
1901246-12	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-01-03	30-May-19 10:09	WR-2 G-4	
1901246-13	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-03-05	30-May-19 10:09	WR-2 G-4	
1901246-14	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-05-07	30-May-19 10:09	WR-2 G-4	DUP
1901246-15	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-07-09	30-May-19 10:09	WR-2 G-4	
1901246-16	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-09-11	30-May-19 10:09	WR-2 G-4	
1901246-17	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-11-11.8	30-May-19 10:09	WR-2 G-4	
1901246-18	<input type="checkbox"/>	SRM 1944	30-May-19 10:09	WR-2 F-4	

WO Comments: **PREP: Requires one dup and one SRM per batch of 20 samples.**
Extract 1g of SRM 1944 - see sample control for SRM sample.

Pre-Prep Check Out: NA
Pre-Prep Check In: NA

Prep Check Out: BL 06/21/19
Prep Check In: BL 06/21/19

Prep Reconciled Initials/Date: RF 06/07/19
Spike Reconciled Initials/Date: BL 06/21/19
VialBoxID: Binny's

Batch: B9F0201

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1901246-01	9 /	55.62806	5.0065	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-02	8.21 /	61.28404	5.0314	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-03	6.89 /	72.86063	5.0201	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-04	6.11 /	82.89156	5.0647	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-05	6.92 /	72.29063	5.0025	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-06	8.87 /	56.61116	5.0214	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-07	6.88 /	72.66949	4.9997	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-08	7.8 /	66.93642	5.2210	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-09	7.36 /	67.9623	5.0020	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-10	6.97 /	71.92661	5.0133	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-11	7.2 /	70.01434	5.0410	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-12	7.31 /	68.70324	5.0222	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-13	7.39 /	67.90945	5.0185	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-14	7.34 /	68.2963	5.0129	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-15	7.31 /	68.42878	5.0021	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-16	8.02 /	62.68882	5.0276	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
1901246-17	7.66 /	65.72581	5.0346	20	21-Jun-19 08:50	BML			Sediment	1613 Full List
B9F0201-BLK1	5			20	21-Jun-19 08:50	BML				QC
B9F0201-BS1	5			20	21-Jun-19 08:50	BML	18F1913 /	10 /		QC
B9F0201-DUP1	7.32 /			20 /	21-Jun-19 08:50 /	BML /				QC

All bolded data on report verified against written benchsheet by (initial/date) ao 06/25/19Printed: 6/25/2019 1:03:47PM
Page 1 of 1

PREPARATION BENCH SHEET

Matrix: Solid

B9F0201

Chemist: BL

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 21-Jun-19 08:50

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	B9F0201-BLK1	NA	(5.00)	BL 00 06/21/19	00 06/24/19	NA	00 06/24/19	00 06/24/19	00 06/24/19	00 06/25/19
<input type="checkbox"/>	B9F0201-BS1		(5.00)	T	T	T	T	T	T	T
<input type="checkbox"/>	B9F0201-DUP1	7.32	7.32							
<input type="checkbox"/>	1901246-14									
<input type="checkbox"/>	1901246-01	8.99	9.00							
<input type="checkbox"/>	1901246-02	8.16	8.21							
<input type="checkbox"/>	1901246-03	6.86	6.89							
<input type="checkbox"/>	1901246-04	6.03	6.11							
<input type="checkbox"/>	1901246-05	6.92	6.92							
<input type="checkbox"/>	1901246-06	8.83	8.87							
<input type="checkbox"/>	1901246-07	6.88	6.88							
<input type="checkbox"/>	1901246-08	7.47	7.80							
<input type="checkbox"/>	1901246-09	7.36	7.36							
<input type="checkbox"/>	1901246-10	6.95	6.97							
<input type="checkbox"/>	1901246-11	7.14	7.20							
<input type="checkbox"/>	1901246-12	7.28	7.31							

IS Name <u>V6</u>	NS Name <u>V6</u>	CRS Name <u>V3</u>	RS Name <u>V3</u>	Cycle Time	APP: SEFUN SOX <u>(SDS)</u>	Check Out: Chemist/Date: <u>BL 06/21/19</u>
PCDD/F <u>19C1902, 10ML</u>	PCDD/F <u>18F1913, 10ML</u>	PCDD/F <u>18J1001, 10ML</u>	PCDD/F <u>18J1002, 10ML</u>	Start Date/Time <u>06/21/19 1445</u>	SOLV: <u>Toluene</u>	Check In: Chemist/Date: <u>BL 06/21/19</u>
PCB	PCB	PCB	PCB	Stop Date/Time <u>06/22/19 0715</u>	Other <u>NA</u>	Balance ID: <u>HRMS-B</u>
PAH	PAH	PAH	PAH	<u>06/22/19 0715</u>	Final Volume(s) <u>C14</u>	
					<u>20ML</u>	

Comments:

- 1 = Sample approached dryness on rotovap
- 2 = Sample bumped on rotovap; lost < 5%
- 3 = Sample poured through Na2SO4 to remove water
- 4 = Precipitate present at Final Volume

- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extraction; pipetted and used Nitrogen to assist

Work Order 1901246

PREPARATION BENCH SHEET

Matrix: Solid

B9F0201

Chemist: BL

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 21-Jun-19 08:50

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	1901246-13	7.36	7.39	BL 00 06/21/19	00 06/24/19	NA	00 06/24/19	00 06/24/19	00 06/24/19	00 06/25/19
<input type="checkbox"/>	1901246-14	7.32	7.34	T	T	T	T	T	T	T
<input type="checkbox"/>	1901246-15	7.31	7.31	T	T	T	T	T	T	T
<input type="checkbox"/>	1901246-16	7.98	8.02	T	T	T	T	T	T	T
<input type="checkbox"/>	1901246-17	7.61	7.66	T	T	T	T	T	T	T

IS Name <u>V6</u>	NS Name <u>V6</u>	CRS Name <u>V3</u>	RS Name <u>V3</u>	Cycle Time	APP: SEFUN <u>SOX</u> <u>SDS</u>	Check Out: Chemist/Date: <u>BL 06/21/19</u>
PCDD/F <u>1901902, 10uL</u>	PCDD/F <u>18F1913, 10uL</u>	PCDD/F <u>18J1001, 10uL</u>	PCDD/F <u>18J1002, 10uL</u>	Start Date/Time <u>06/21/19 1445</u>	SOLV: <u>Toluene</u>	Check In: Chemist/Date: <u>BL 06/24/19</u>
PCB	PCB	PCB	PCB	Stop Date/Time <u>06/22/19 0715</u>	Other <u>NA</u>	Balance ID: <u>HRM1-B</u>
PAH	PAH	PAH	PAH		Final Volume(s) <u>C14</u> <u>20uL</u>	

Comments:

- 1 = Sample approached dryness on rotovap
- 2 = Sample bumped on rotovap; lost < 5%
- 3 = Sample poured through Na2SO4 to remove water
- 4 = Precipitate present at Final Volume

- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extraction; pipetted and used Nitrogen to assist

Work Order 1901246

BATCH ID B9F0068

Analyst: DF	Test Code: %Moist/%Solids	Data Entry Verified by: (Initial and Date) <u>BNS 06/13/19</u>
Analyte:	Units: %	
Dried at 110°C +/- 5°C		
Oven ID: 01 02		

HRMS-9

06/07/19 1337	06/12/19 0739
---------------	---------------

[illegible]

*Sample homogenized in sample container unless otherwise noted.

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B9F0068

Analyst: DF

Test Code: %Moist/%Solids

Analyte:

Units: %

Oven ID: 01 02
Dried at 110°C +/- 5°CData Entry Verified by: NA
(Initial and Date)

Inst

H2MS-1

Date/Time IN: Date/Time OUT

06/07/19 06/12/19 7:39* DF 06/07/19

B		C	D	E		F	G	H	I	K	L	M	N	O	P
Particle Size		SampleID	SampleType	Initial and Date:	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
		1901246-01	Sample	<u>DF 06/07/19</u>	<u>1.27</u>	<u>7.40</u>	<u>CO 06/12/19</u>	<u>4.68</u>		<u>Black clay</u>					X
		1901246-02	Sample		<u>1.28</u>	<u>6.42</u>		<u>4.43</u>							X
		1901246-03	Sample		<u>1.28</u>	<u>9.46</u>		<u>7.24</u>							X
		1901246-04	Sample		<u>1.27</u>	<u>5.42</u>		<u>4.71</u>							X
		1901246-05	Sample		<u>1.27</u>	<u>9.39</u>		<u>7.14</u>							X
		1901246-06	Sample		<u>1.26</u>	<u>11.47</u>		<u>7.04</u>							X
		1901246-07	Sample		<u>1.28</u>	<u>10.72</u>		<u>8.14</u>							X
		1901246-08	Sample		<u>1.27</u>	<u>9.92</u>		<u>7.06</u>							X
		1901246-09	Sample		<u>1.27</u>	<u>9.76</u>		<u>7.04</u>							X
		1901246-10	Sample		<u>1.27</u>	<u>6.72</u>		<u>5.19</u>							X
		1901246-11	Sample		<u>1.29</u>	<u>8.26</u>		<u>6.17</u>							X
		1901246-12	Sample		<u>1.28</u>	<u>9.30</u>		<u>6.79</u>							X
		1901246-13	Sample		<u>1.28</u>	<u>8.79</u>		<u>6.38</u>							X
		1901246-14	Sample		<u>1.27</u>	<u>8.02</u>		<u>5.88</u>							X
		1901246-15	Sample		<u>1.28</u>	<u>8.09</u>		<u>5.94</u>							X
		1901246-16	Sample		<u>1.27</u>	<u>7.89</u>		<u>5.42</u>							X
		1901246-17	Sample		<u>1.27</u>	<u>6.23</u>		<u>4.53</u>							X

*Sample homogenized in sample container unless otherwise noted.



Process Sheet
Workorder: 1901246

RX

07/01/19

Prep Expiration: 2020-05-20
Client: Anchor QEA, LLC

Workorder Due: 20-Jun-19 00:00

TAT: 21

Method: 1613 Full List
Matrix: Solid
Client Matrix: Sediment
Also run: Percent Solids

Prep Batch: B9G0073

Prep Data Entered: DF 07/10/19
Date and Initials

Initial Sequence: S9G0024

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1901246-01	<input type="checkbox"/>	T4-PDI2019-SC13-190521-01-03	30-May-19 10:09	WR-2 G-4	
1901246-02	<input type="checkbox"/>	T4-PDI2019-SC13-190521-02-03	30-May-19 10:09	WR-2 G-4	
1901246-03	<input type="checkbox"/>	T4-PDI2019-SC13-190521-03-03	30-May-19 10:09	WR-2 G-4	
1901246-04	<input type="checkbox"/>	T4-PDI2019-SC13-190521-04-03	30-May-19 10:09	WR-2 G-4	
1901246-05	<input type="checkbox"/>	FD 201905211556	30-May-19 10:09	WR-2 G-4	
1901246-06	<input type="checkbox"/>	T4-PDI2019-SC13-190521-06-03	30-May-19 10:09	WR-2 G-4	
1901246-07	<input type="checkbox"/>	T4-PDI2019-SC13-190521-07-03	30-May-19 10:09	WR-2 G-4	
1901246-08	<input type="checkbox"/>	T4-PDI2019-SC13-190521-08-07	30-May-19 10:09	WR-2 G-4	
1901246-09	<input checked="" type="checkbox"/>	T4-PDI2019-SC13-190521-07-09	30-May-19 10:09	WR-2 G-4	
1901246-10	<input type="checkbox"/>	T4-PDI2019-SC13-190521-09-11	30-May-19 10:09	WR-2 G-4	
1901246-11	<input type="checkbox"/>	T4-PDI2019-SC13-190521-10-03	30-May-19 10:09	WR-2 G-4	
1901246-12	<input type="checkbox"/>	T4-PDI2019-SC13-190521-11-03	30-May-19 10:09	WR-2 G-4	
1901246-13	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-03-05	30-May-19 10:09	WR-2 G-4	
1901246-14	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-05-07	30-May-19 10:09	WR-2 G-4	DUP
1901246-15	<input type="checkbox"/>	T4-PDI2019-SC13-190521-12-03	30-May-19 10:09	WR-2 G-4	
1901246-16	<input checked="" type="checkbox"/>	T4-PDI2019-SC19-190521-09-11	30-May-19 10:09	WR-2 G-4	
1901246-17	<input type="checkbox"/>	T4-PDI2019-SC13-190521-13-03	30-May-19 10:09	WR-2 G-4	
1901246-18	<input type="checkbox"/>	CRM 1911	30-May-19 10:09	WR-2 F-4	

WO Comments: PREP: Requires one dup and one CRM per batch of 20 samples.

~~Extract 1g of CRM 1911 see sample control for CRM sample~~

Pre-Prep Check Out: 07/08/19
Pre-Prep Check In: NA

Prep Check Out: NA
Prep Check In: NA

Prep Reconciled Initials/Date: 07/08/19
Spike Reconciled Initials/Date: 07/08/19
VialBoxID: B11B0

Batch: B9G0073

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1901246-09RE1	7.39 ✓	67.9623	5.0224	20	08-Jul-19 07:53	ACO			Sediment	1613 Full List
1901246-13RE1	7.38 ✓	67.90945	5.0117	20	08-Jul-19 07:53	ACO			Sediment	1613 Full List
1901246-14RE1	7.32 ✓	68.2963	4.9993	20	08-Jul-19 07:53	ACO			Sediment	1613 Full List
1901246-16RE1	8 ✓	62.68882	5.0151	20	08-Jul-19 07:53	ACO			Sediment	1613 Full List
B9G0073-BLK1	5 ✓			20	08-Jul-19 07:53	ACO				QC
B9G0073-BS1	5 ✓			20	08-Jul-19 07:53	ACO	18F1913 ✓	10 ✓		QC
B9G0073-DUP1	7.32 ✓			20	08-Jul-19 07:53	ACO				QC

All bolded data on report verified against written benchsheet by (initial/date) D#07/10/19
Work Order 1901246

Printed: 7/10/2019 2:25:09PM
Page 1 of 1
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PREPARATION BENCH SHEET

Matrix: Solid

B9G0073

Chemist: AO

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 08-Jul-19 07:53

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	B9G0073-BLK1	NA	AA (5.00)	AO 07/08/19	BNB 07/09/19	N/A	07/09/19	DF 07/09/19	07/10/19	AO 07/10/19
<input type="checkbox"/>	B9G0073-BS1	I	I (5.00)	I	I	I	I	I	I	I
<input type="checkbox"/>	B9G0073-DUP1	7.32	7.32	I	I	I	I	I	I	I
<input type="checkbox"/>	1901246-14RE1	7.36	7.39	I	I	I	I	I	I	I
<input type="checkbox"/>	1901246-09RE1	7.36	7.38	I	I	I	I	I	I	I
<input type="checkbox"/>	1901246-13RE1	7.32	7.32	I	I	I	I	I	I	I
<input type="checkbox"/>	1901246-14RE1	7.98	8.00	I	I	I	I	I	I	I
<input type="checkbox"/>	1901246-16RE1			I	I	I	I	I	I	I

IS Name <u>VB</u>	NS Name <u>V7</u>	CRS Name <u>V3</u>	RS Name <u>V3</u>	Cycle Time	APP: SEFUN SOX <u>SDS</u>	Check Out: Chemist/Date: <u>AO 07/08/19</u>
PCDD/F <u>19C1902, 10</u>	PCDD/F <u>18F1913, 10</u>	PCDD/F <u>12J1001, 10mL</u>	PCDD/F <u>18J1002, 10mL</u>	Start Date/Time <u>07/08/19 1314</u>	SOLV: <u>Toluene</u>	Check In: Chemist/Date: <u>AO 07/08/19</u>
PCB	PCB	PCB	PCB	Stop Date/Time <u>07/09/19 0515</u>	Other <u>NA</u>	Balance ID: <u>HRMS-8</u>
PAH	PAH	PAH	PAH		Final Volume(s) <u>14</u> <u>20mL</u>	

Comments:

- 1 = Sample approached dryness on rotovap
- 2 = Sample bumped on rotovap; lost < 5%
- 3 = Sample poured through Na2SO4 to remove water
- 4 = Precipitate present at Final Volume

- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extraction; pipetted and used Nitrogen to assist

Work Order 1901246

SAMPLE DATA – EPA METHOD 1613

Client ID: Method Blank
Lab ID: B9F0201-BLK1

Filename: 190626D2 S:4 Acq:27-JUN-19 07:03:26
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.000

ConCal: ST190626D2-1
EndCAL: NA

Page 3 of 3

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF _η	*		222 2.5	0.199	
1,2,3,7,8-PeCDD	*	* n	0.87	NotF _η	*		251 2.5	0.192	
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF _η	*		167 2.5	0.170	
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF _η	*		167 2.5	0.171	
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF _η	*		167 2.5	0.171	
1,2,3,4,6,7,8-HpCDD	*	* n	0.99	NotF _η	*		161 2.5	0.147	
OCDD	*	* n	0.99	NotF _η	*		212 2.5	0.243	
2,3,7,8-TCDF	*	* n	0.94	NotF _η	*		251 2.5	0.179	
1,2,3,7,8-PeCDF	*	* n	0.92	NotF _η	*		341 2.5	0.309	
2,3,4,7,8-PeCDF	*	* n	0.96	NotF _η	*		341 2.5	0.270	
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF _η	*		188 2.5	0.0814	
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF _η	*		188 2.5	0.0806	
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF _η	*		188 2.5	0.0845	
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF _η	*		188 2.5	0.135	
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF _η	*		169 2.5	0.117	
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF _η	*		169 2.5	0.113	
OCDF	*	* n	0.94	NotF _η	*		240 2.5	0.250	

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		222	0.199
Total Penta-Dioxins	*	*		251	0.192
Total Hexa-Dioxins	*	*		167	0.171
Total Hepta-Dioxins	*	*		161	0.147
Total Tetra-Furans	0.580	1.51		*	*
Total Penta-Furans	0.91866	0.91866		*	*
Total Hexa-Furans	*	*		188	0.0942
Total Hepta-Furans	*	*		*	*

0.115^u
08/08/19

IS	13C-2,3,7,8-TCDD	9.06e+06	0.78 y	1.11	26:03	268.35
IS	13C-1,2,3,7,8-PeCDD	8.57e+06	0.63 y	0.98	30:32	287.47
IS	13C-1,2,3,4,7,8-HxCDD	6.97e+06	1.26 y	0.68	33:49	318.99
IS	13C-1,2,3,6,7,8-HxCDD	8.65e+06	1.27 y	0.84	33:55	318.03
IS	13C-1,2,3,7,8,9-HxCDD	8.65e+06	1.24 y	0.81	34:14	329.59
IS	13C-1,2,3,4,6,7,8-HpCDD	8.17e+06	1.09 y	0.69	37:41	368.59
IS	13C-OCDD	1.40e+07	0.90 y	0.62	40:57	692.38
IS	13C-2,3,7,8-TCDF	1.20e+07	0.82 y	1.05	25:18	241.41
IS	13C-1,2,3,7,8-PeCDF	1.19e+07	1.66 y	0.95	29:23	265.21
IS	13C-2,3,4,7,8-PeCDF	1.18e+07	1.66 y	0.94	30:16	267.53
IS	13C-1,2,3,4,7,8-HxCDF	9.19e+06	0.52 y	0.86	32:56	331.56
IS	13C-1,2,3,6,7,8-HxCDF	1.11e+07	0.50 y	1.02	33:03	336.16
IS	13C-2,3,4,6,7,8-HxCDF	1.04e+07	0.51 y	0.95	33:40	338.83
IS	13C-1,2,3,7,8,9-HxCDF	9.48e+06	0.51 y	0.87	34:39	337.96
IS	13C-1,2,3,4,6,7,8-HpCDF	8.52e+06	0.43 y	0.81	36:27	325.87
IS	13C-1,2,3,4,7,8,9-HpCDF	7.40e+06	0.44 y	0.63	38:15	362.05
IS	13C-OCDF	1.66e+07	0.89 y	0.78	41:10	654.69

Rec Qual

67.1
71.9
79.7
79.5
82.4
92.1
86.5
60.4
66.3
66.9
82.9
84.0
84.7
84.5
81.5
90.5
81.8

C/Up	37Cl-2,3,7,8-TCDD	3.98e+06		1.22	26:04	107.17
RS/RT	13C-1,2,3,4-TCDD	1.22e+07	0.78 y	1.00	25:28	400.00
RS	13C-1,2,3,4-TCDF	1.89e+07	0.82 y	1.00	24:04	400.00
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.29e+07	0.51 y	1.00	33:21	400.00

Integrations
by
Analyst: DB

Date: 7/25/19

Reviewed
by
Analyst: CM

Date: 08/08/19

Totals class: TCDF EMPC

Entry #: 27

Run: 9

File: 190626D2

S: 4 I: 1 F: 1

Acquired: 27-JUN-19 07:03:26

Processed: 27-JUN-19 17:02:00

Total Concentration: 1.5079

Unnamed Concentration: 1.508

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
24:27	8.023e+03	8.247e+03	0.97	n	1.460e+04	0.51714
26:34	6.843e+03	9.527e+03	0.72	y	1.637e+04	0.57994
26:44	7.776e+03	6.553e+03	1.19	n	1.160e+04	0.41087

Totals class: PeCDF EMPC

Entry #: 31

Run: 9

File: 190626D2

S: 4 I: 1 F: 2

Acquired: 27-JUN-19 07:03:26

Processed: 27-JUN-19 17:02:00

Total Concentration: 0.91866

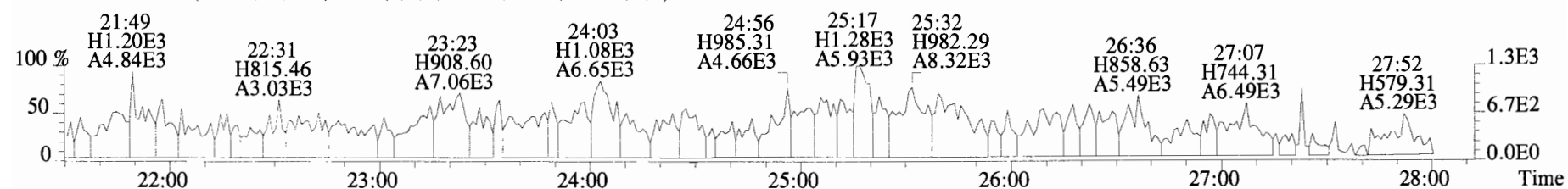
Unnamed Concentration: 0.919

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
29:35	1.603e+04	9.589e+03	1.67 y	2.562e+04	0.91866

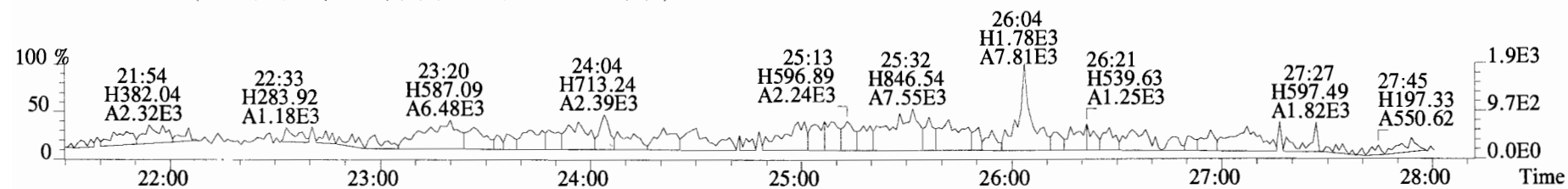
File:190626D2 #1-514 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE

Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5

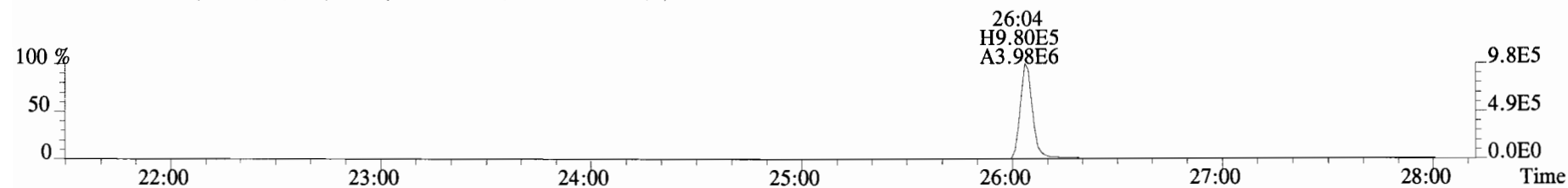
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



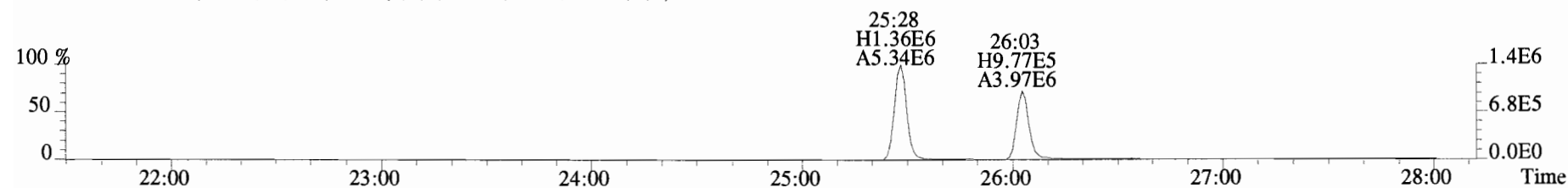
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



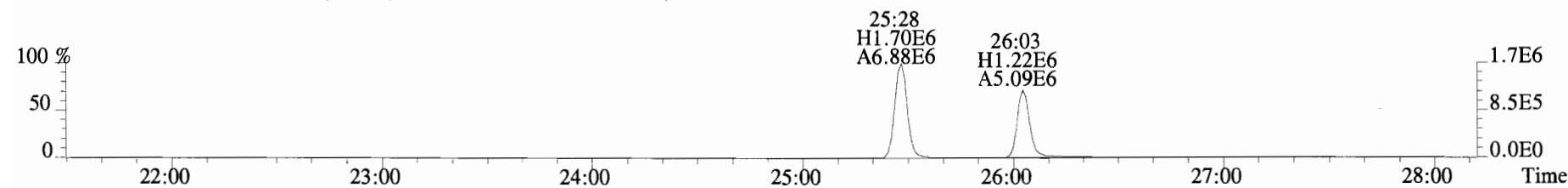
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



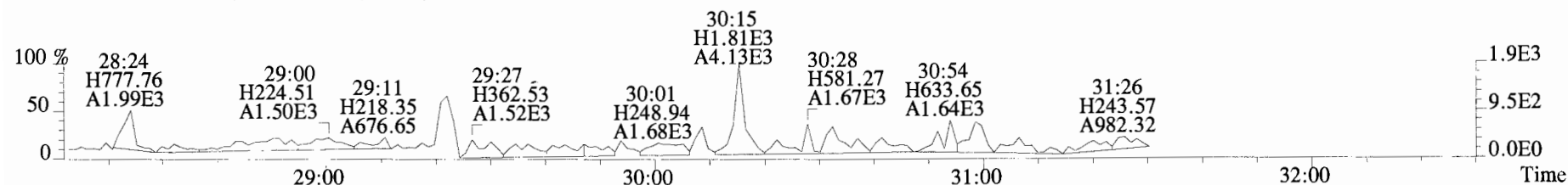
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



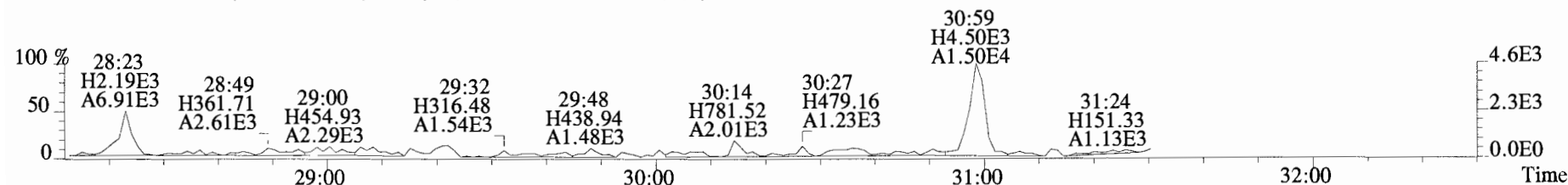
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



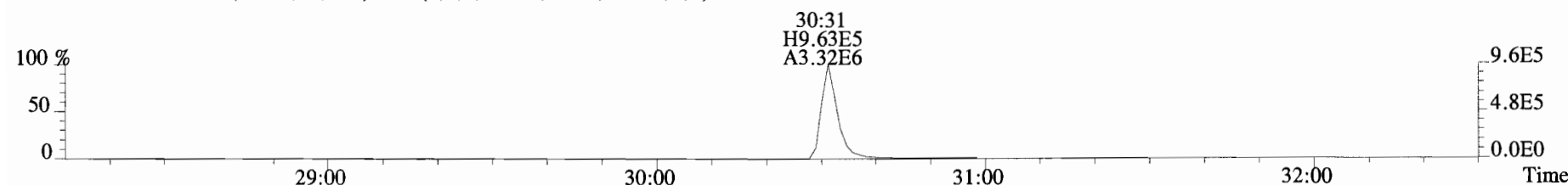
File:190626D2 #1-184 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



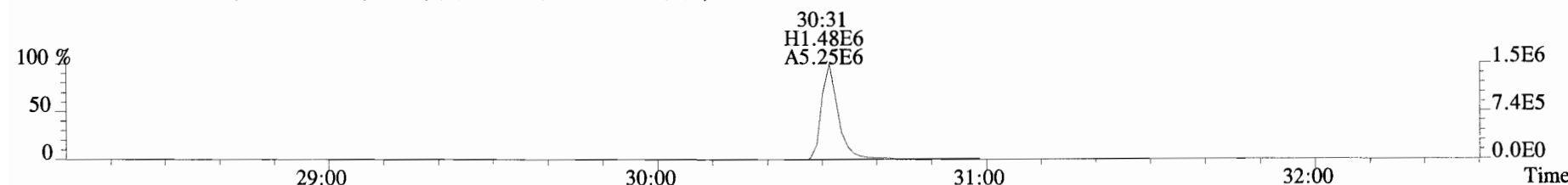
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



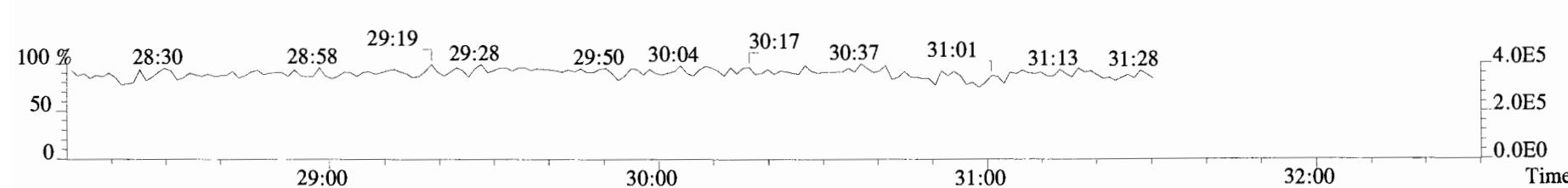
365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



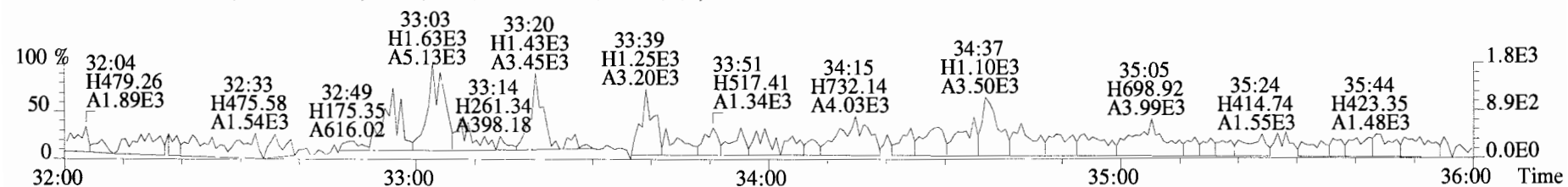
367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



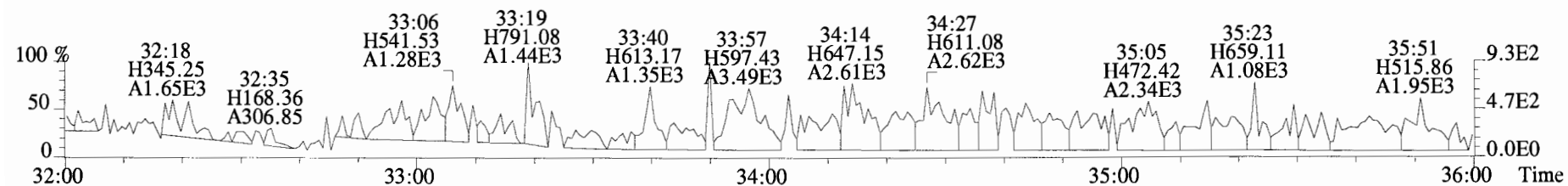
366.9792 S:4 F:2



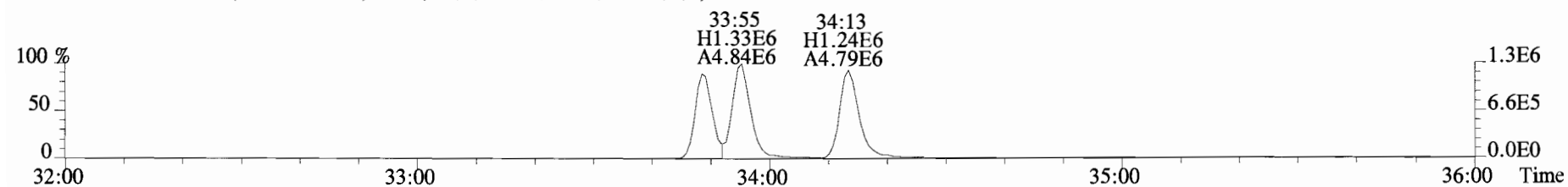
File:190626D2 #1-400 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



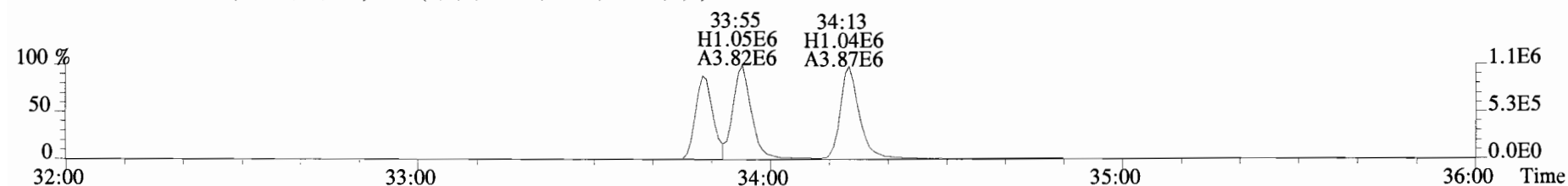
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



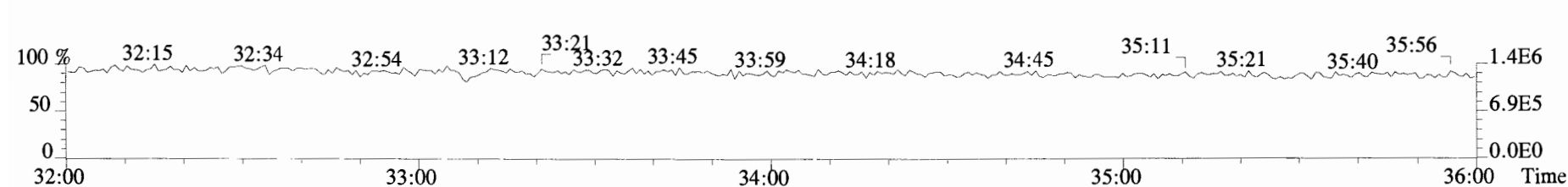
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



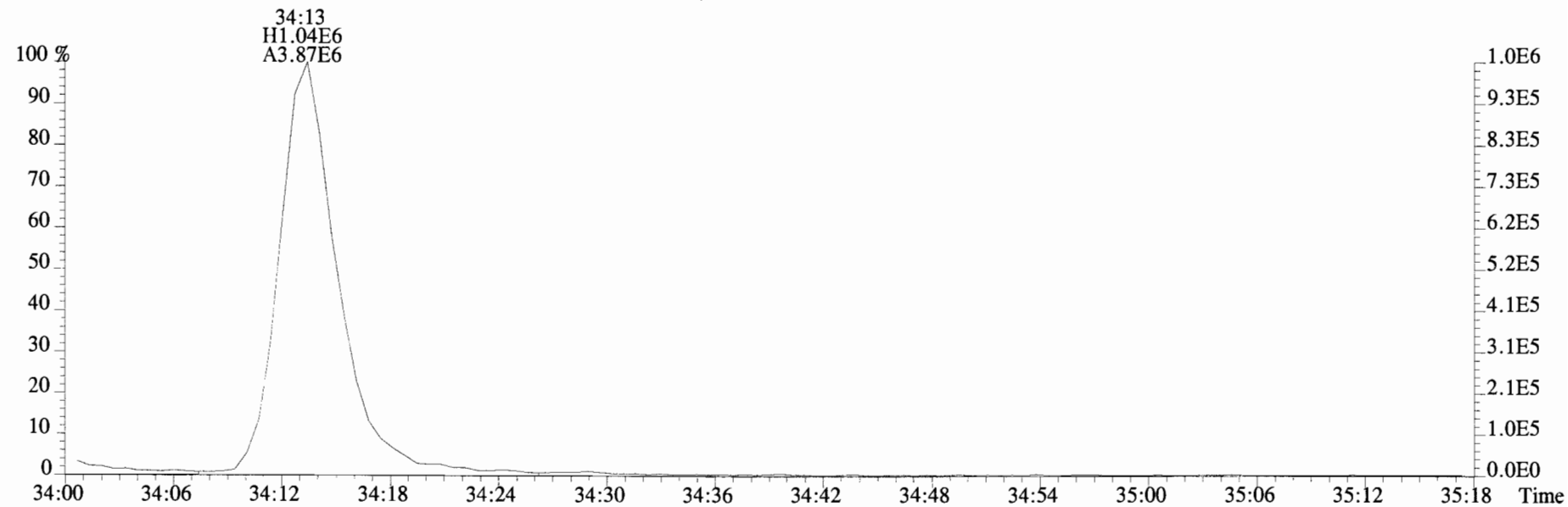
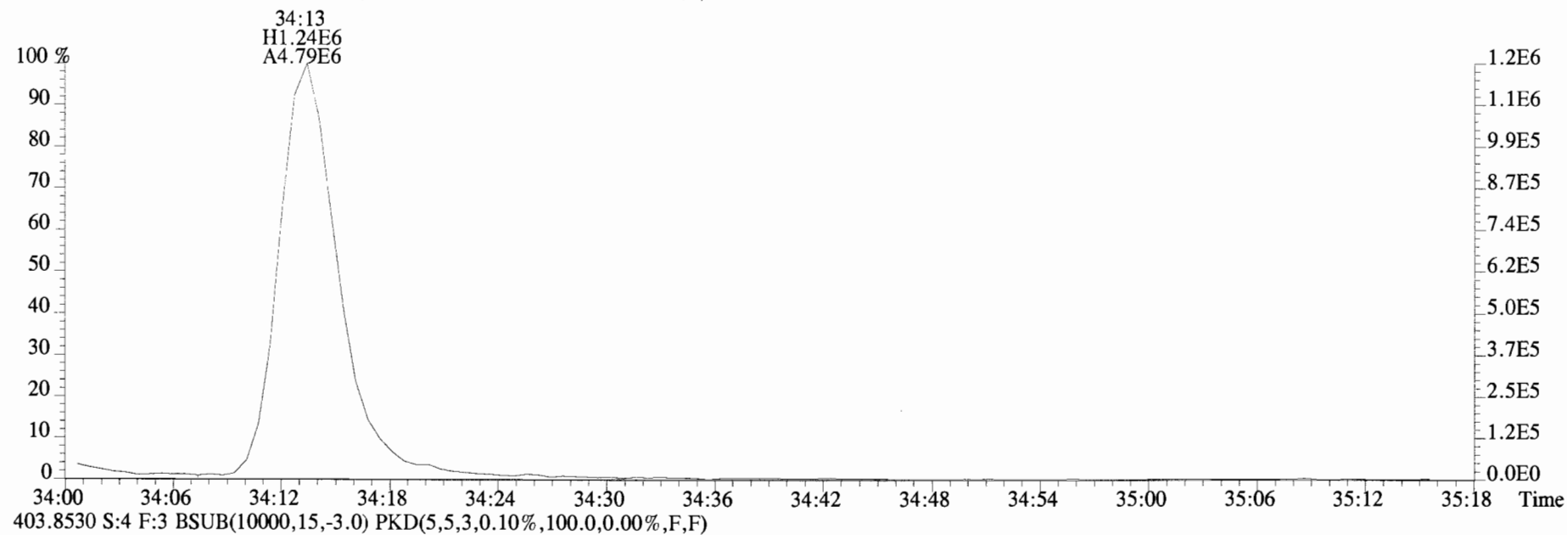
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



392.9760 S:4 F:3



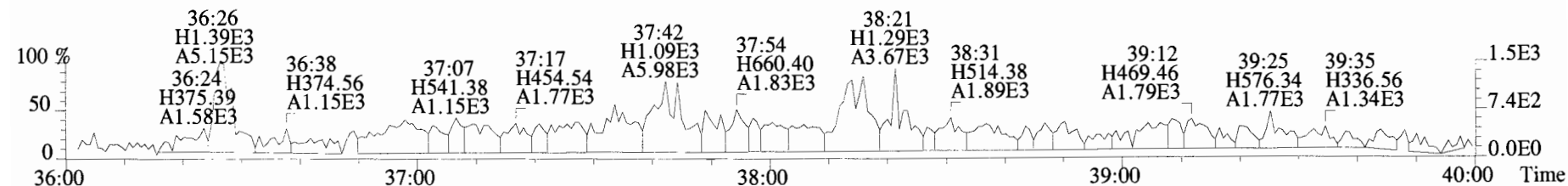
File:190626D2 #1-400 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



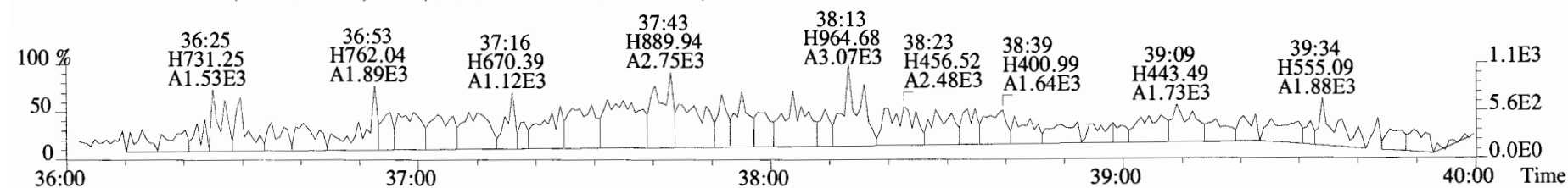
File:190626D2 #1-355 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE

Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD_DB5

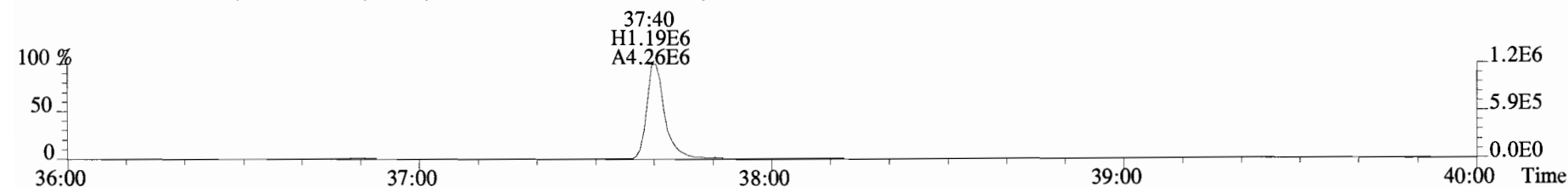
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



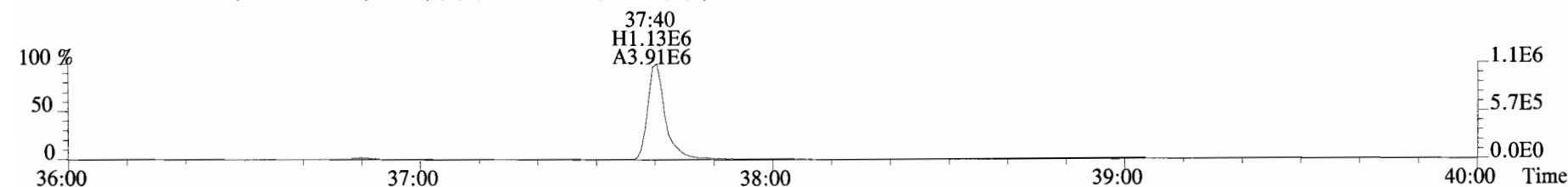
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



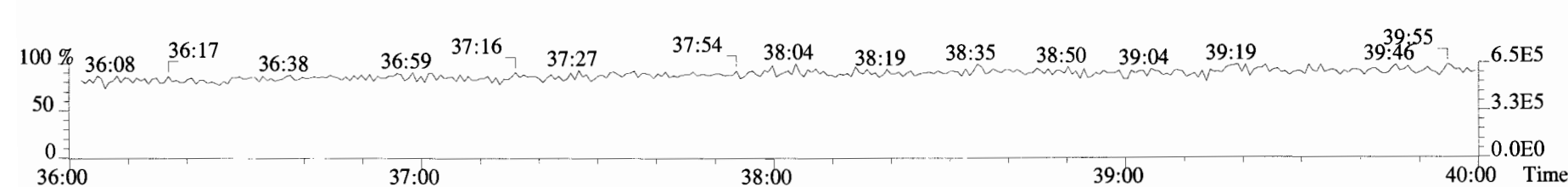
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



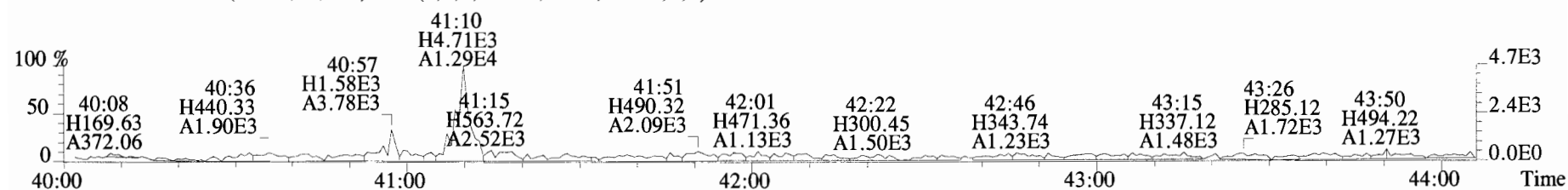
454.9728 S:4 F:4



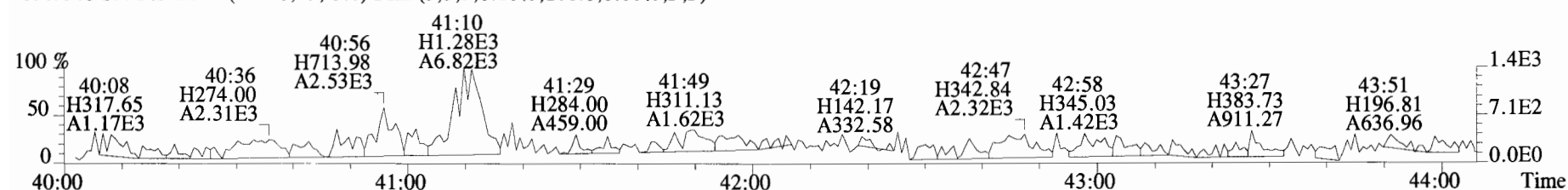
File:190626D2 #1-432 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE

Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD_DB5

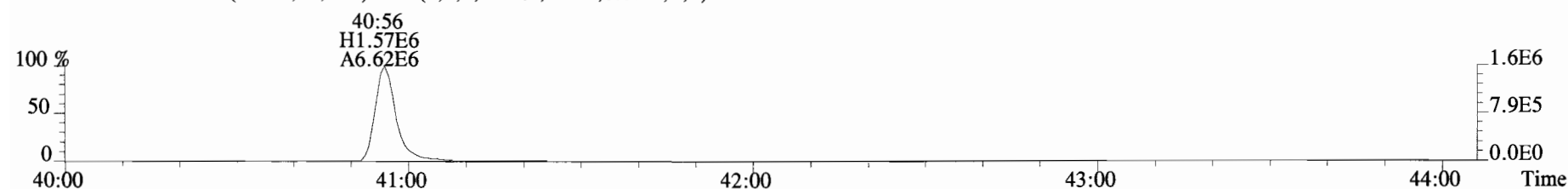
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



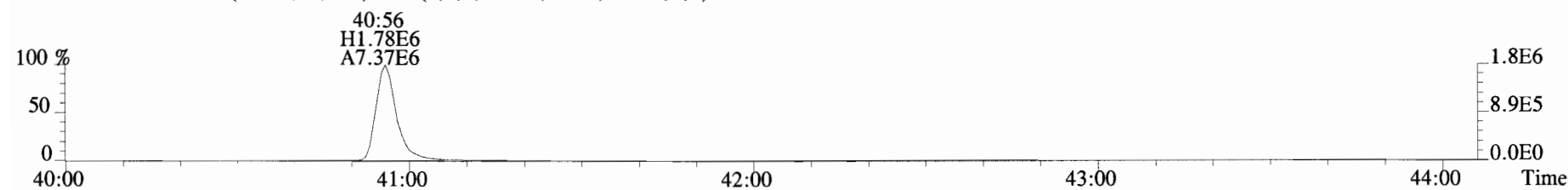
459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



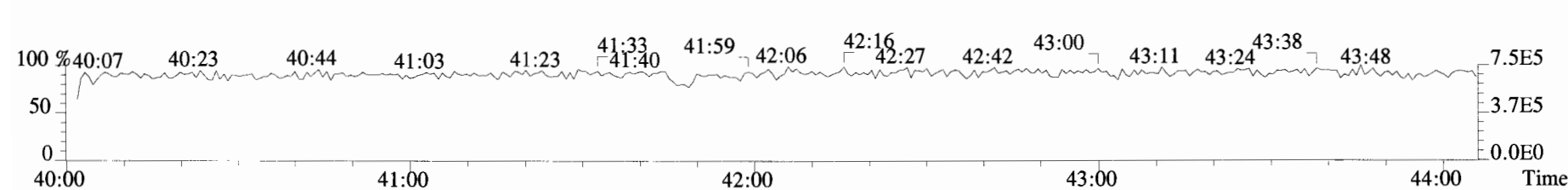
469.7780 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



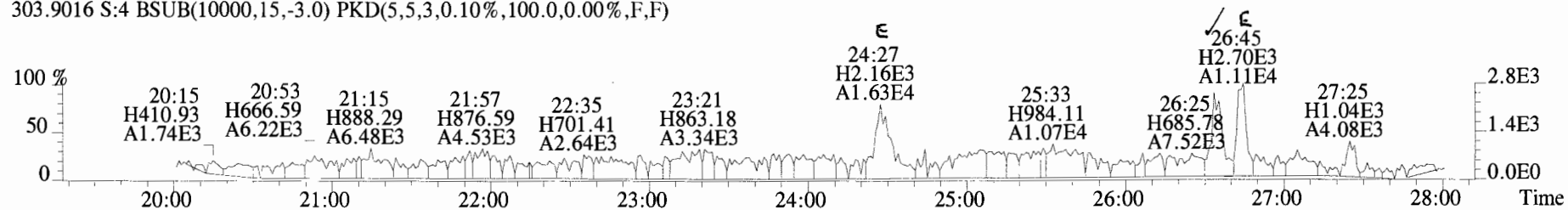
471.7750 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



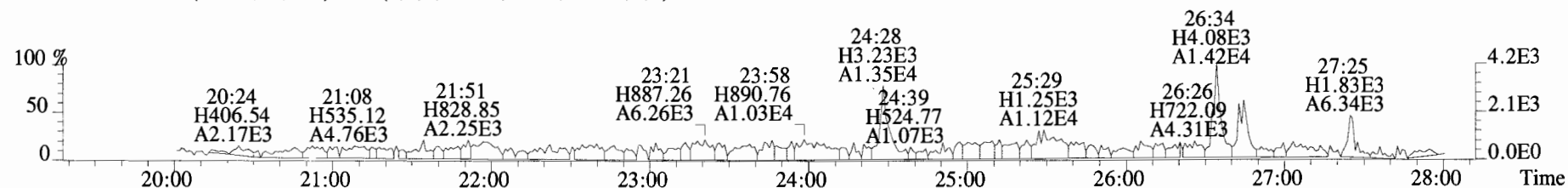
454.9728 S:4 F:5



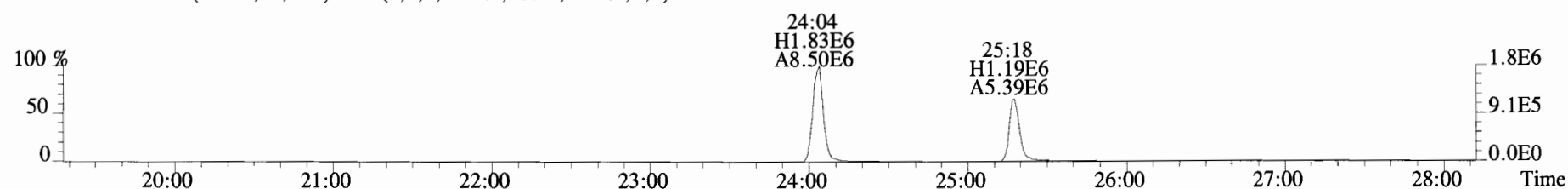
File:190626D2 #1-514 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD_DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



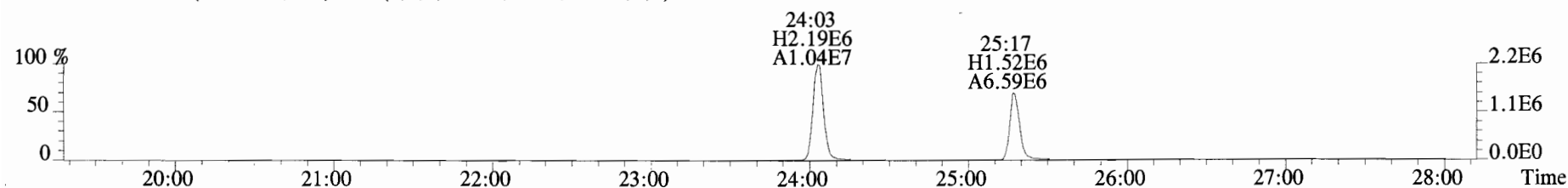
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



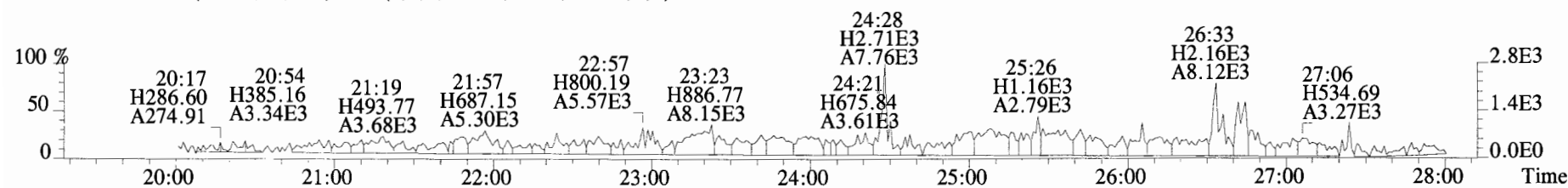
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



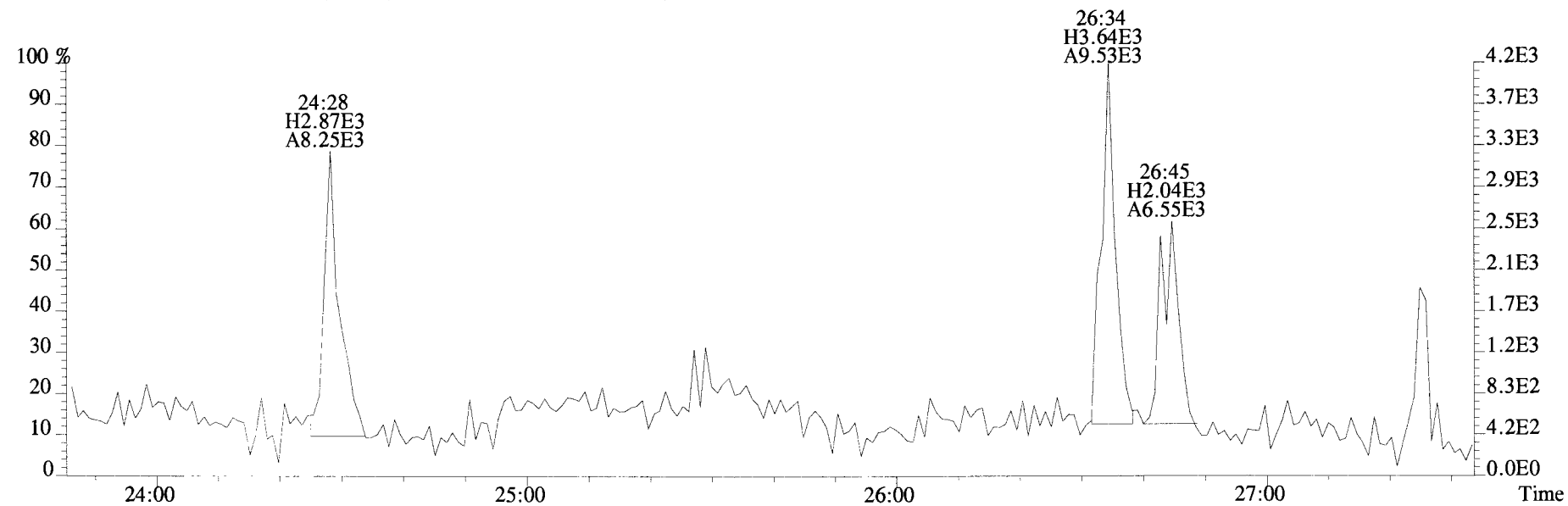
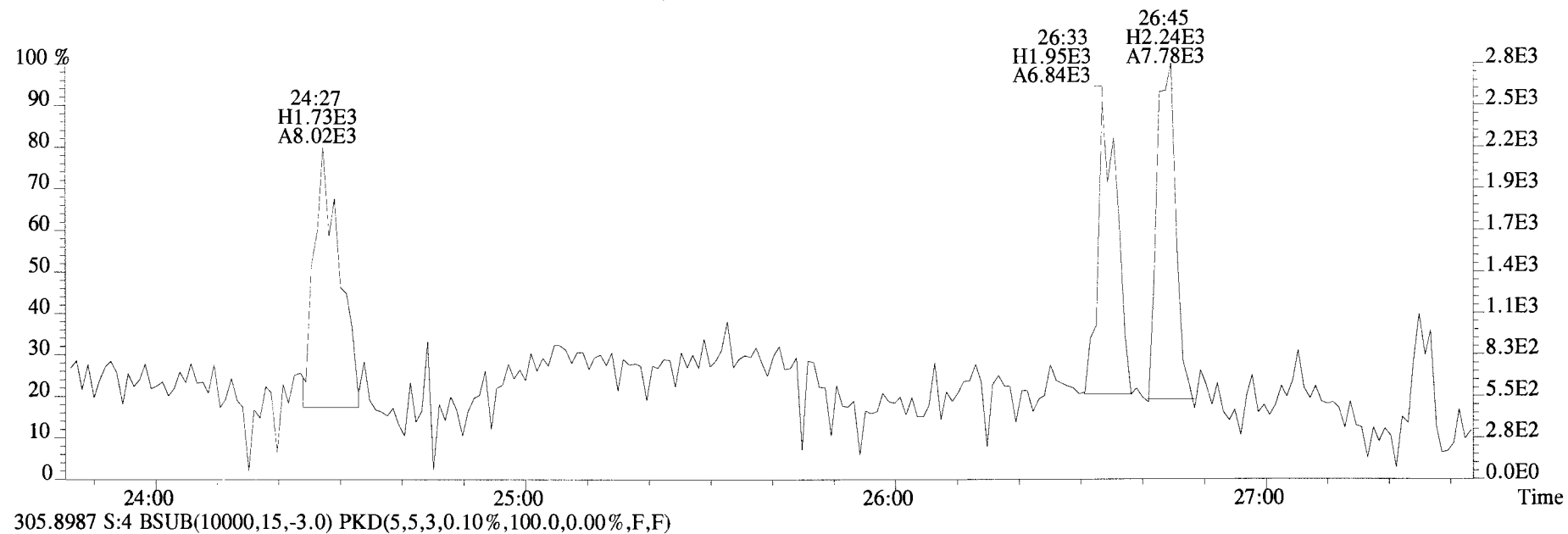
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



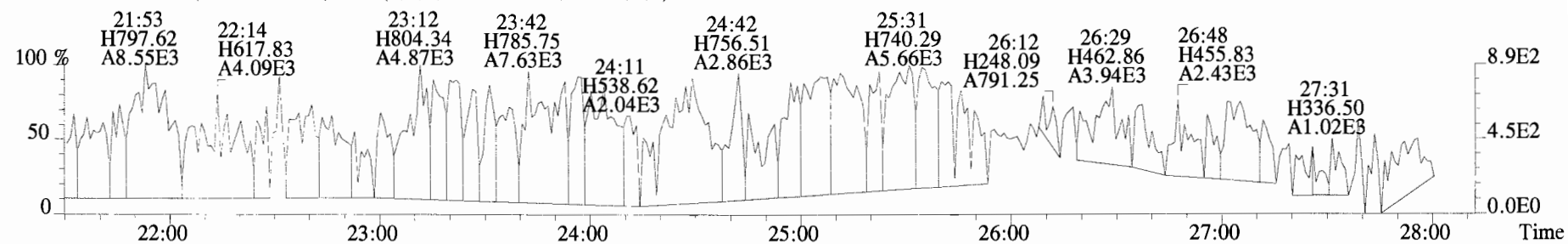
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



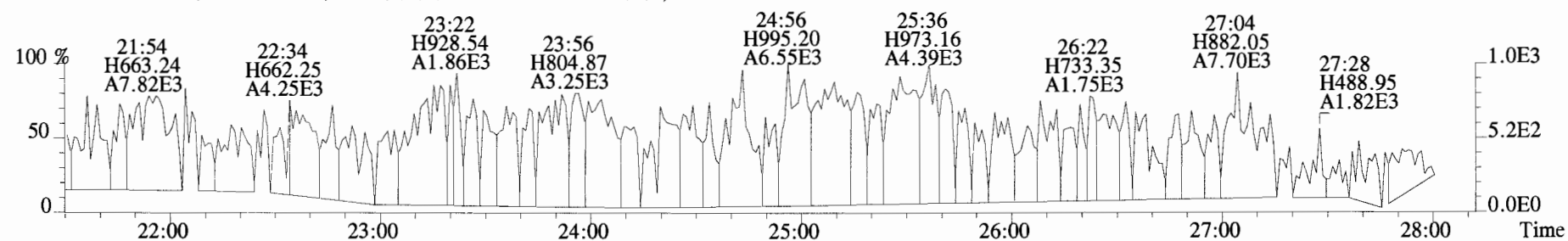
File:190626D2 #1-514 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



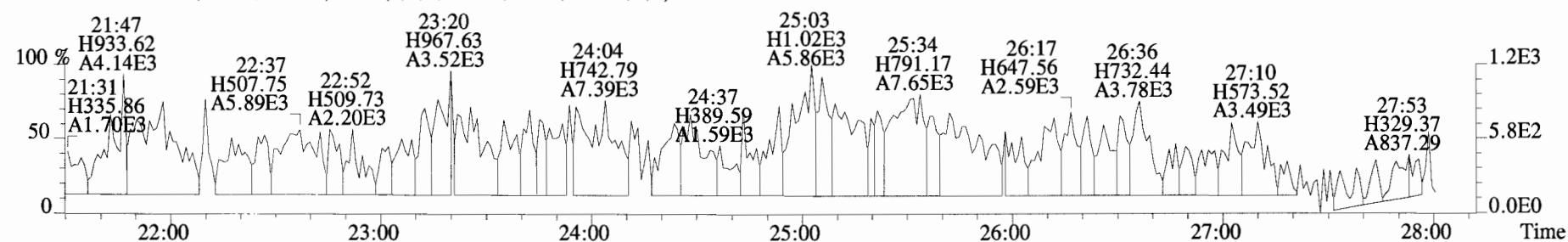
File:190626D2 #1-514 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



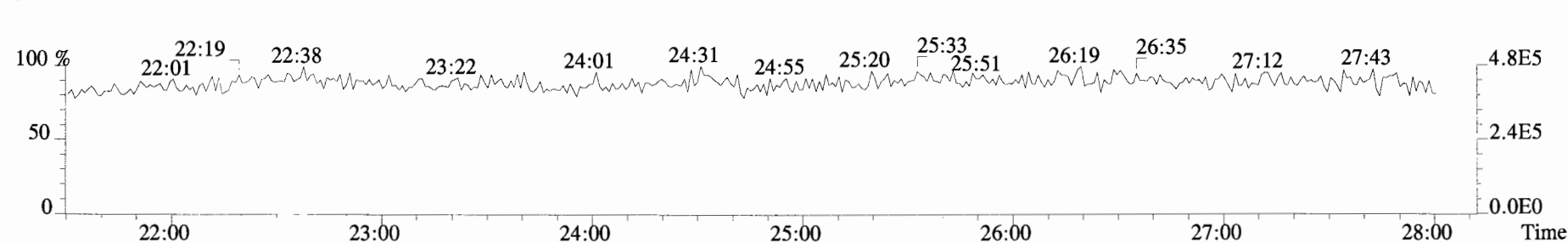
341.8568 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



409.7974 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



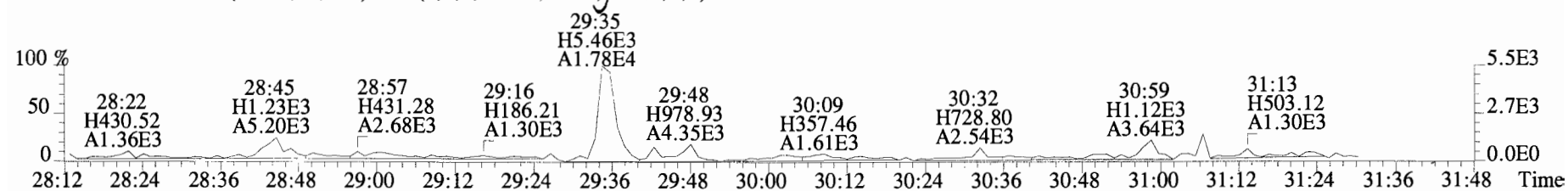
316.9824 S:4



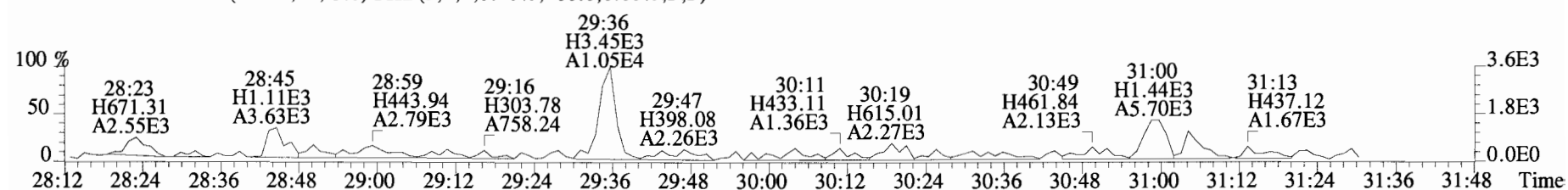
File:190626D2 #1-184 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE

Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5

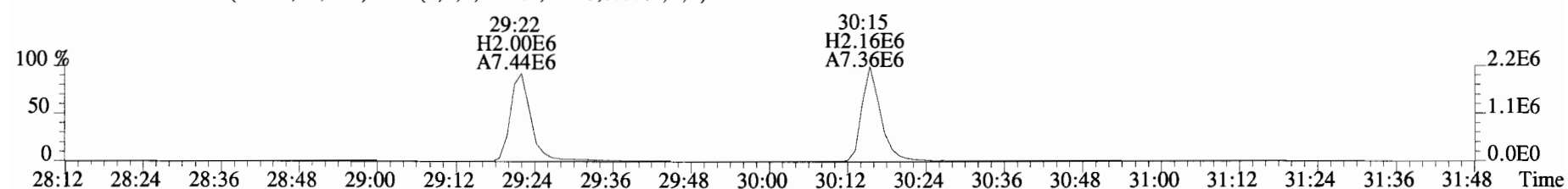
339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



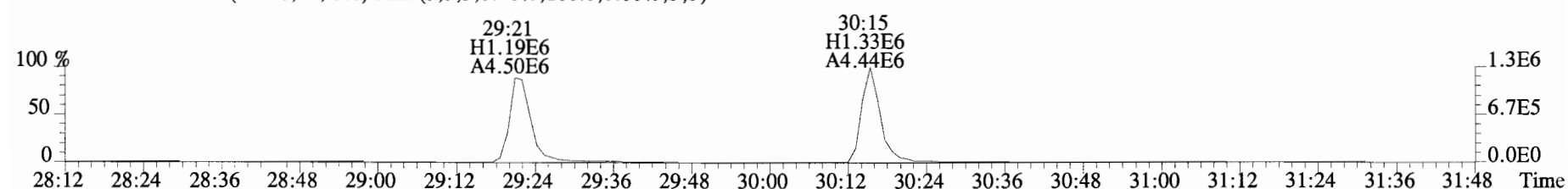
341.8568 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



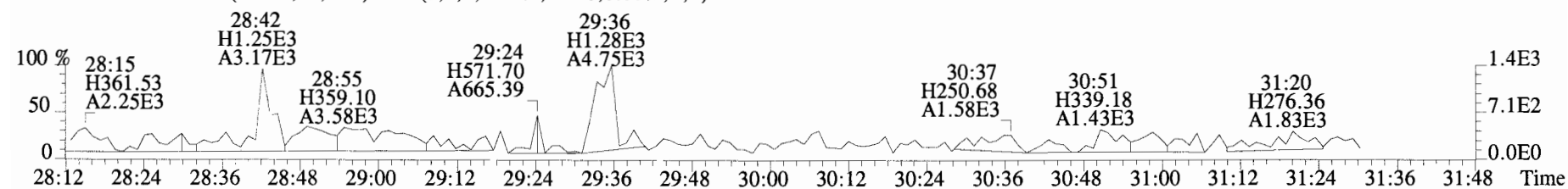
351.9000 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



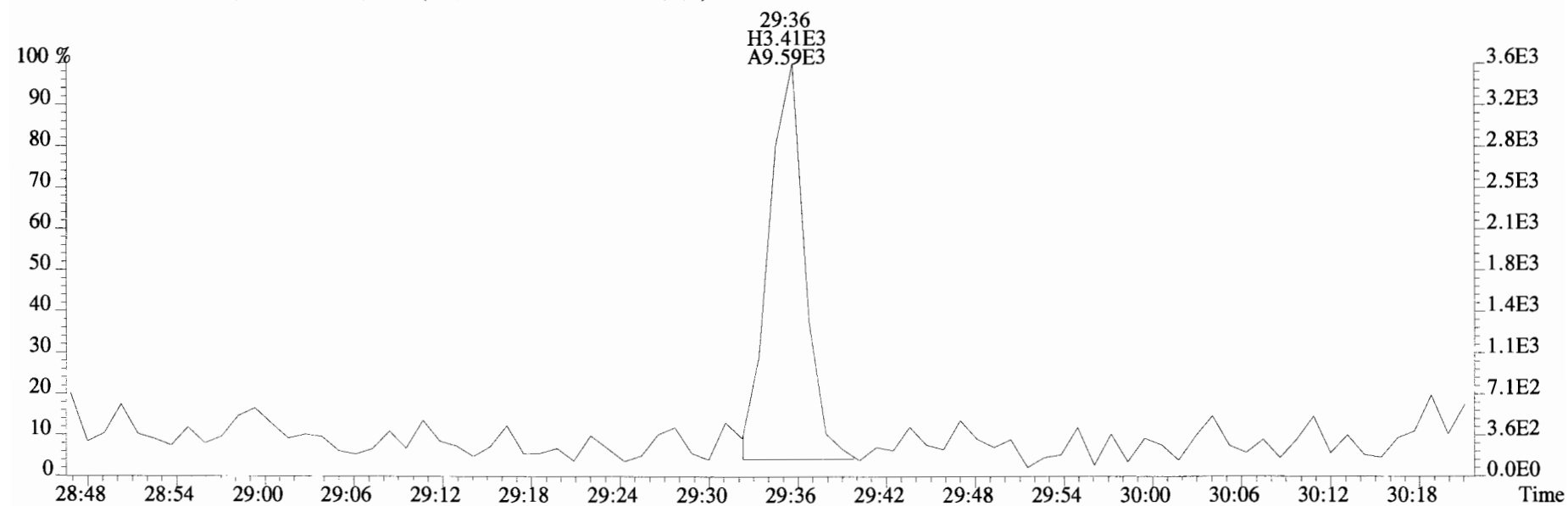
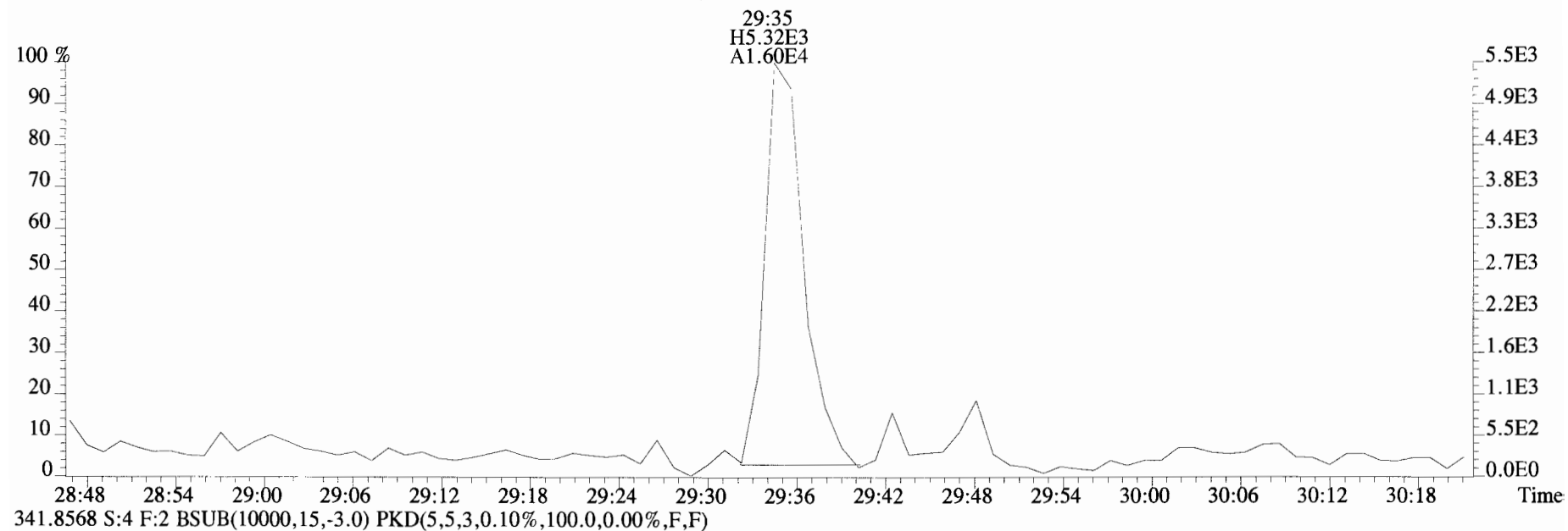
353.8970 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



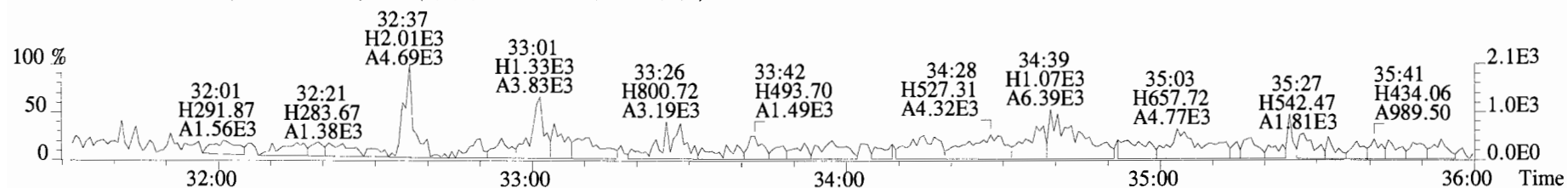
409.7974 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



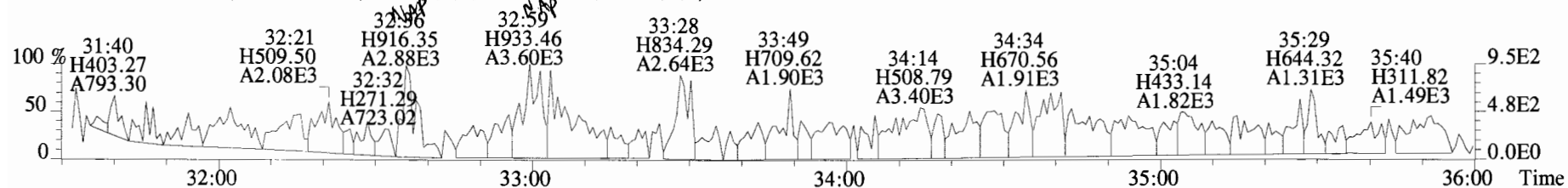
File:190626D2 #1-184 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



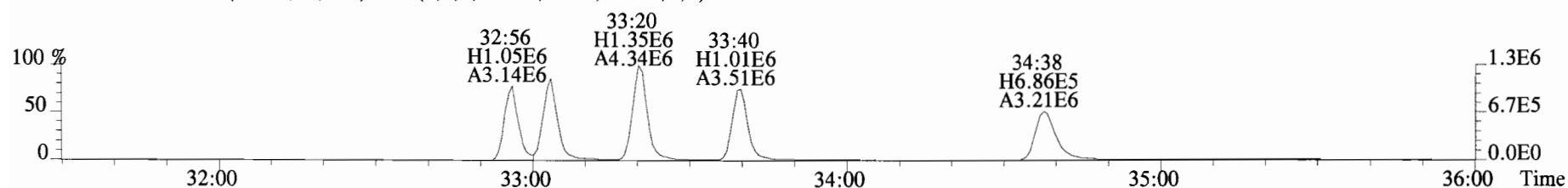
File:190626D2 #1-400 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



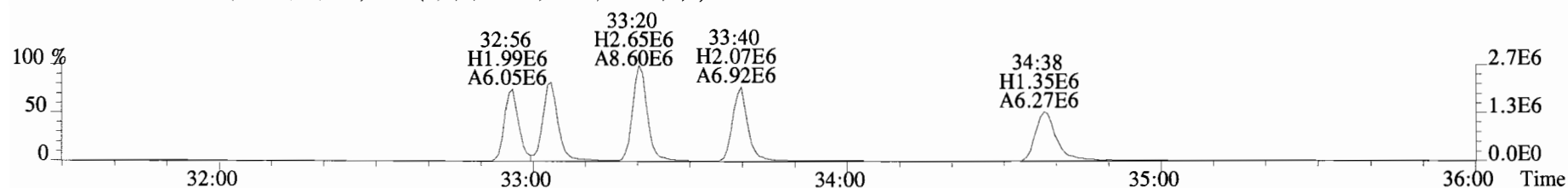
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



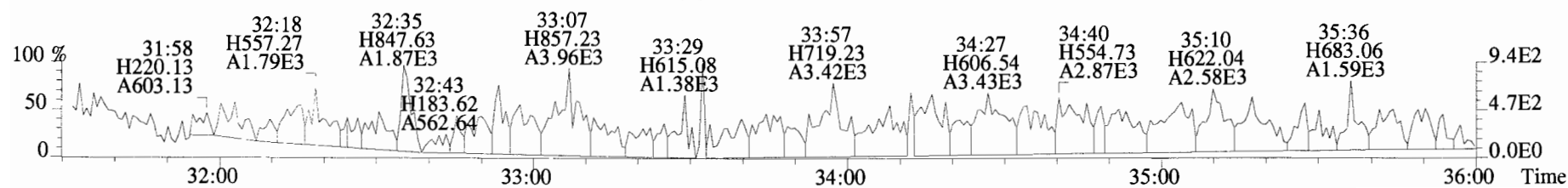
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



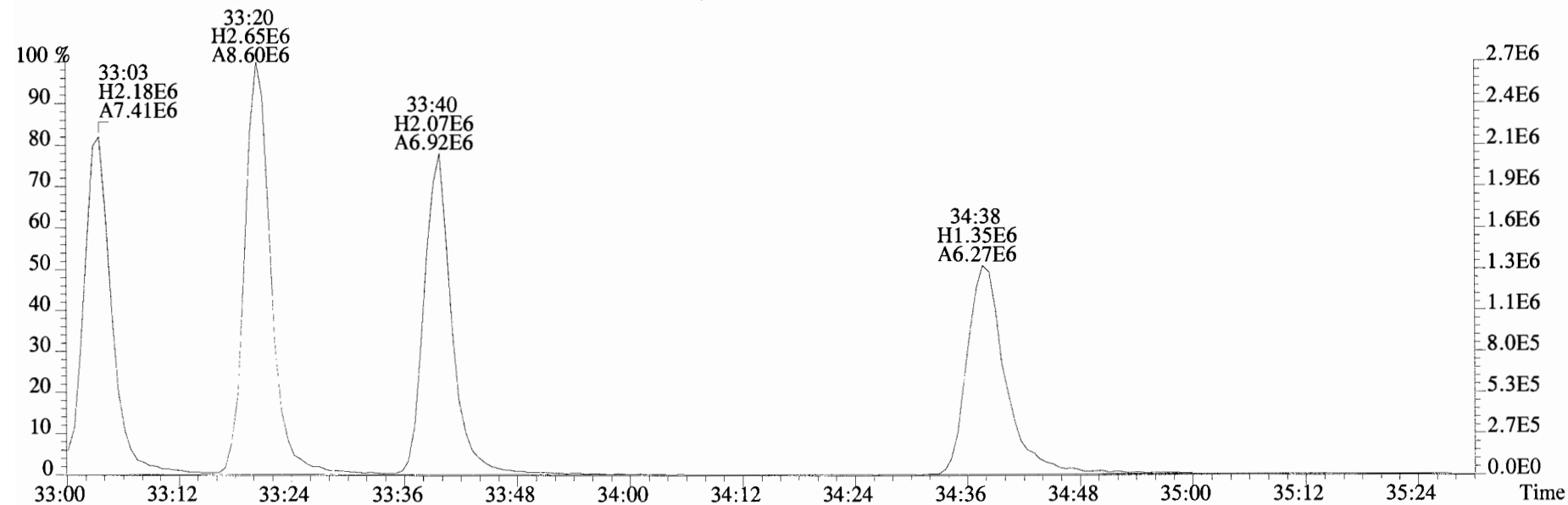
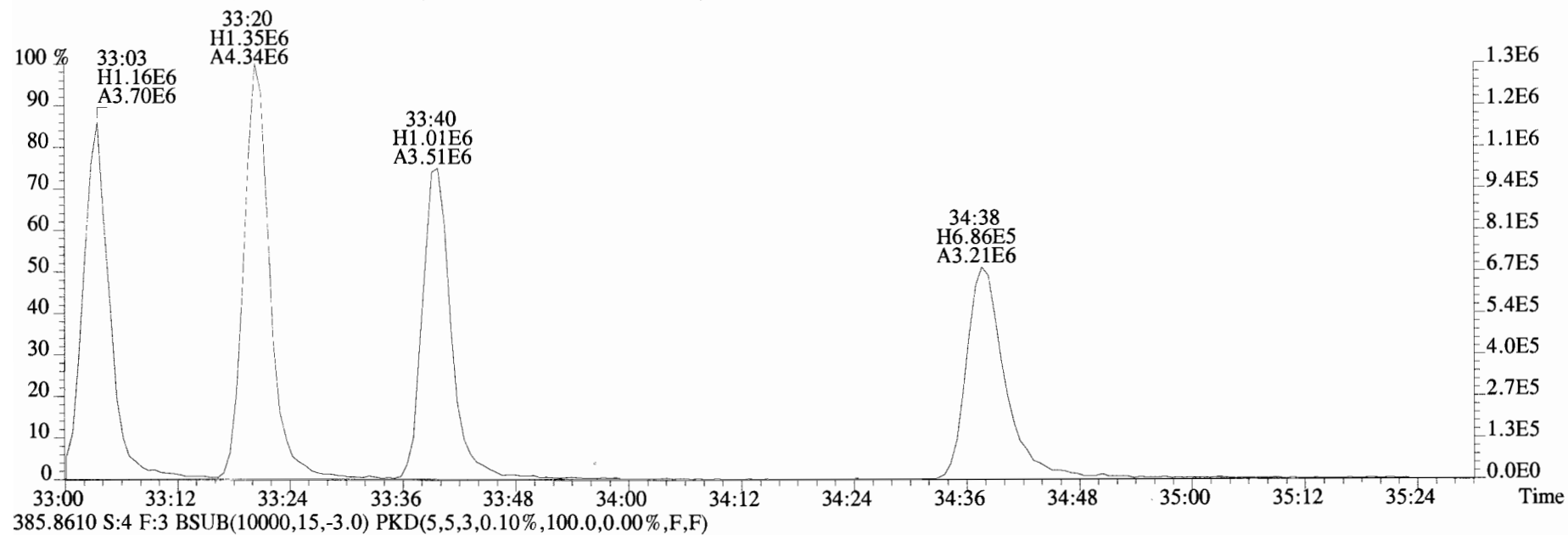
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



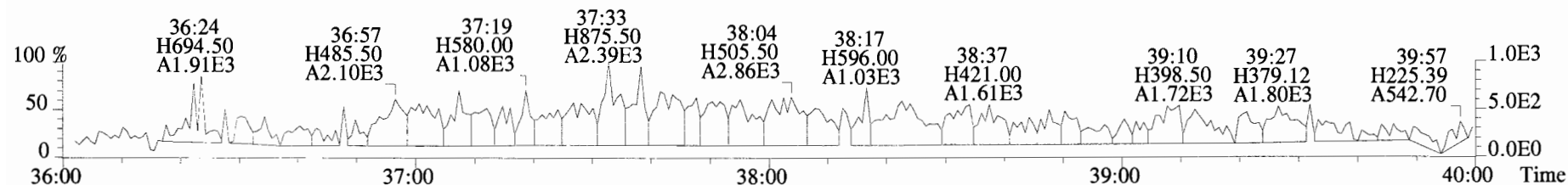
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



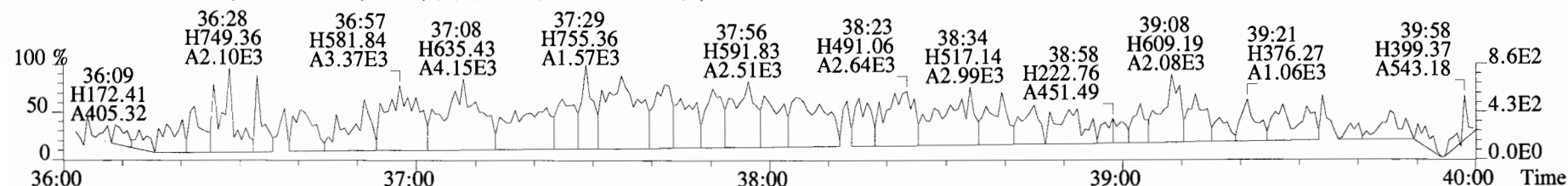
File:190626D2 #1-400 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



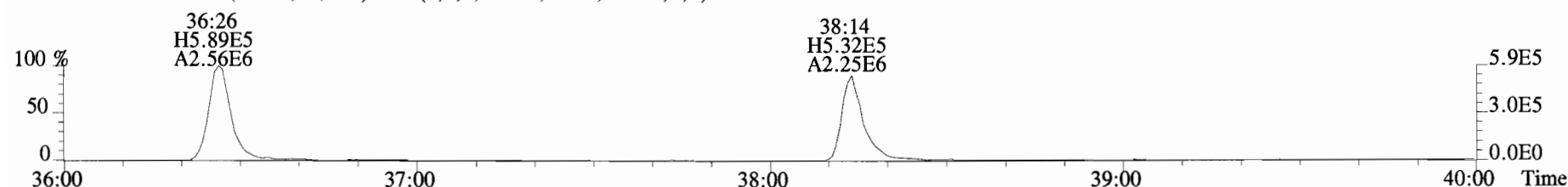
File:190626D2 #1-355 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5
407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



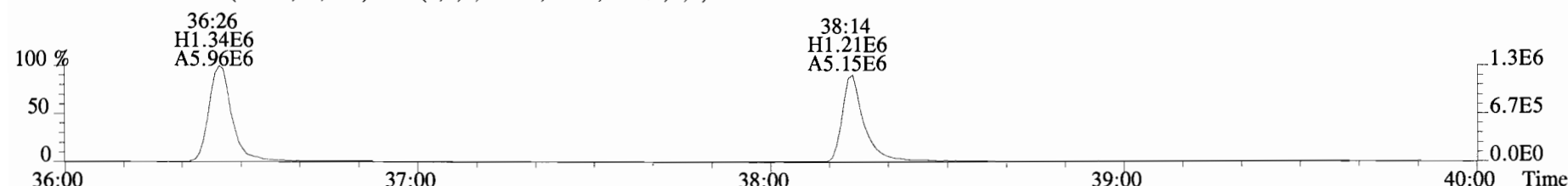
409.7788 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



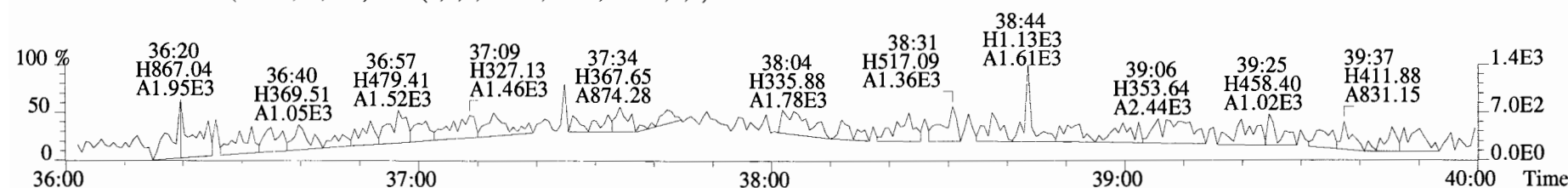
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



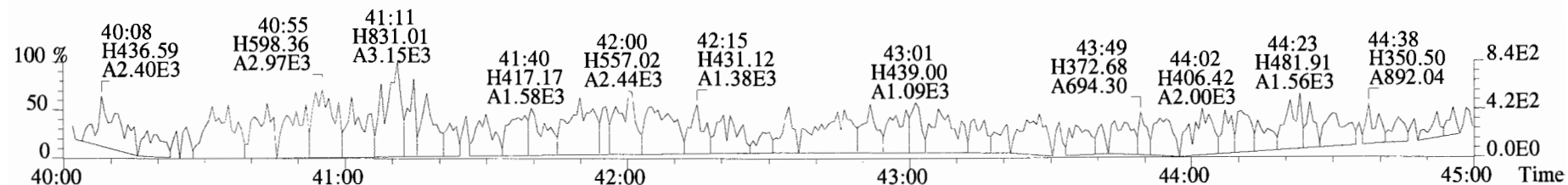
479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



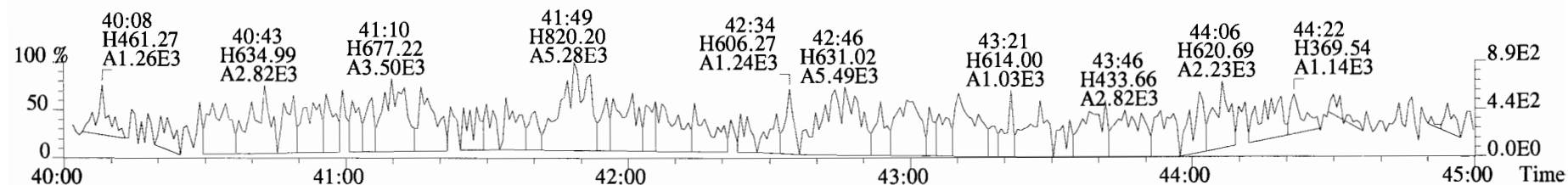
File:190626D2 #1-432 Acq:27-JUN-2019 07:03:26 GC EI+ Voltage SIR Autospec-UltimaE

Sample#4 Text:B9F0201-BLK1 Method Blank 5 Exp:OCDD DB5

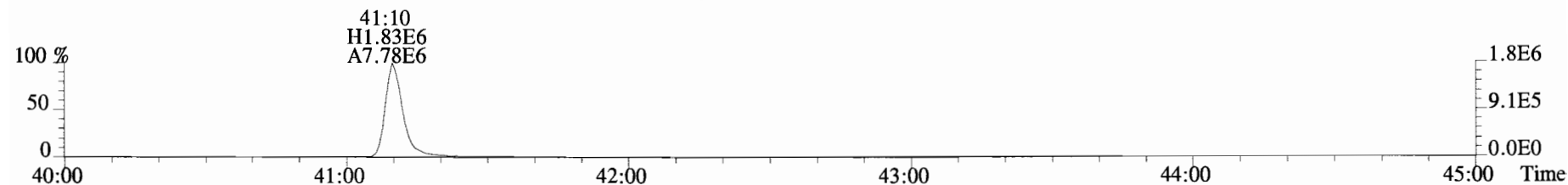
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



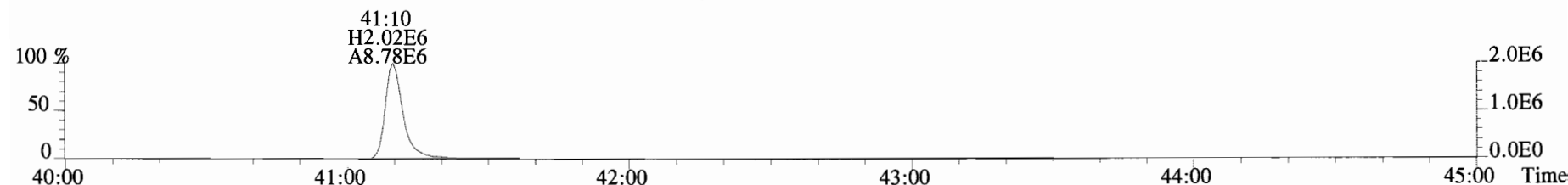
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



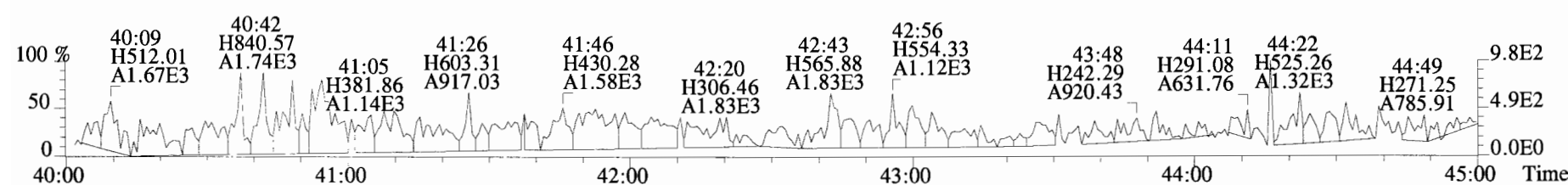
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



FORM 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B9F0201-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 190626D2-2

Ext. Date: Shift: Day Analysis Date: 27-JUN-19 Time: 05:28:03

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

NATIVE ANALYTES	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
2,3,7,8-TCDD	10	11.5	6.7 - 15.8
1,2,3,7,8-PeCDD	50	59.0	7.3 - 14.6 (2) 35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	54.7	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	57.2	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	54.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	50.4	35.0 - 70.0
OCDD	100	104	78.0 - 144.0
2,3,7,8-TCDF	10	10.3	7.5 - 15.8 8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	58.8	40.0 - 67.0
2,3,4,7,8-PeCDF	50	58.1	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	54.0	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	54.3	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	54.3	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	54.8	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	57.2	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	55.2	39.0 - 69.0
OCDF	100	106	63.0 - 170.0

(1) Contract-required concentration limits for OPR
as specified in Table 6, Method 1613. 10/94

(2) Contract-required concentration limits for OPR
as specified in Table 6a, Method 1613. 10/94

Analyst: DB

Date: 7/25/19

FORM 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B9F0201-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 190626D2-2

Ext. Date: Shift: Day Analysis Date: 27-JUN-19 Time: 05:28:03

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

LABELED COMPOUNDS	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
13C-2,3,7,8-TCDD	100	78.3	20.0 - 175.0 25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	77.7	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	87.1	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	87.3	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	86.6	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	89.6	26.0 - 166.0
13C-OCDD	200	176	26.0 - 397.0
13C-2,3,7,8-TCDF	100	69.3	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	73.4	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	72.2	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	88.8	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	89.9	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	91.1	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	87.0	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	80.7	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	87.8	20.0 - 186.0
13C-OCDF	200	171	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	28.7	12.4 - 76.4

(1) Contract-required concentration limits for OPR
as specified in Table 6, Method 1613. 10/94(2) Contract-required concentration limits for OPR
as specified in Table 6a, Method 1613. 10/94Analyst: DBDate: 7/25/19

Client ID: OPR
Lab ID: B9F0201-BS1

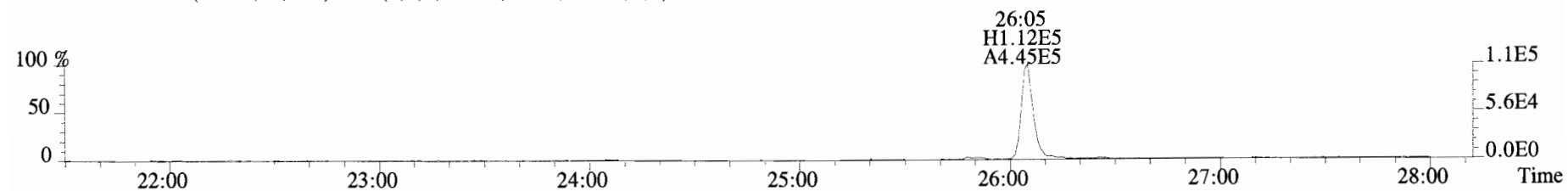
Filename: 190626D2 S:2 Acq:27-JUN-19 05:28:03
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190626D2-1
EndCAL: NA

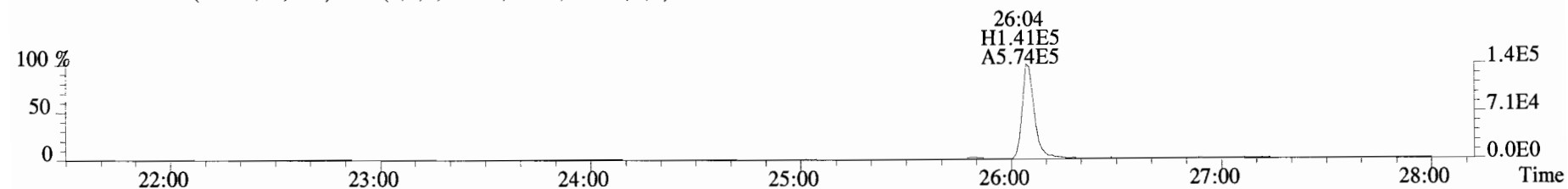
Page 2 of 2

											Name	Conc	EMPC	Qual	noise	DL
		Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL					
		2,3,7,8-TCDD	1.02e+06	0.78 y	0.90	26:05	11.516		* 2.5		*	Total Tetra-Dioxins	11.8	12.7	*	*
		1,2,3,7,8-PeCDD	4.43e+06	0.62 y	0.87	30:33	59.032		* 2.5		*	Total Penta-Dioxins	59.2	59.8	*	*
		1,2,3,4,7,8-HxCDD	4.33e+06	1.22 y	1.05	33:50	54.690		* 2.5		*	Total Hexa-Dioxins	167	168	*	*
		1,2,3,6,7,8-HxCDD	5.01e+06	1.20 y	0.93	33:57	57.204		* 2.5		*	Total Hepta-Dioxins	51.0	51.6	*	*
		1,2,3,7,8,9-HxCDD	4.74e+06	1.21 y	0.96	34:15	54.594		* 2.5		*	Total Tetra-Furans	10.6	11.8	*	*
		1,2,3,4,6,7,8-HpCDD	3.93e+06	1.01 y	0.99	37:41	50.402		* 2.5		*	Total Penta-Furans	117.13	118.58	*	*
		OCDD	7.22e+06	0.89 y	0.99	40:57	103.90		* 2.5		*	Total Hexa-Furans	218	220	*	*
												Total Hepta-Furans	113	114	*	*
		2,3,7,8-TCDF	1.27e+06	0.81 y	0.94	25:20	10.317		* 2.5		*					
		1,2,3,7,8-PeCDF	6.83e+06	1.55 y	0.92	29:23	58.788		* 2.5		*					
		2,3,4,7,8-PeCDF	6.75e+06	1.65 y	0.96	30:17	58.106		* 2.5		*					
		1,2,3,4,7,8-HxCDF	6.07e+06	1.25 y	1.15	32:57	53.969		* 2.5		*					
		1,2,3,6,7,8-HxCDF	6.64e+06	1.21 y	1.04	33:05	54.278		* 2.5		*					
		2,3,4,6,7,8-HxCDF	6.62e+06	1.24 y	1.10	33:41	54.325		* 2.5		*					
		1,2,3,7,8,9-HxCDF	5.46e+06	1.22 y	1.03	34:39	54.757		* 2.5		*					
		1,2,3,4,6,7,8-HpCDF	5.09e+06	1.01 y	1.06	36:28	57.241		* 2.5		*					
		1,2,3,4,7,8,9-HpCDF	4.81e+06	1.03 y	1.23	38:15	55.170		* 2.5		*					
		OCDF	8.53e+06	0.91 y	0.94	41:12	105.71		* 2.5		*					
												Rec	Qual			
IS		13C-2,3,7,8-TCDD	9.83e+06	0.77 y	1.11	26:04	78.299					78.3				
IS		13C-1,2,3,7,8-PeCDD	8.61e+06	0.63 y	0.98	30:32	77.727					77.7				
IS		13C-1,2,3,4,7,8-HxCDD	7.54e+06	1.27 y	0.68	33:49	87.050					87.1				
IS		13C-1,2,3,6,7,8-HxCDD	9.42e+06	1.30 y	0.84	33:55	87.334					87.3				
IS		13C-1,2,3,7,8,9-HxCDD	9.01e+06	1.27 y	0.81	34:14	86.627					86.6				
IS		13C-1,2,3,4,6,7,8-HpCDD	7.88e+06	1.05 y	0.69	37:41	89.610					89.6				
IS		13C-OCDD	1.41e+07	0.93 y	0.62	40:57	175.92					88.0				
IS		13C-2,3,7,8-TCDF	1.31e+07	0.78 y	1.05	25:19	69.266					69.3				
IS		13C-1,2,3,7,8-PeCDF	1.26e+07	1.63 y	0.95	29:23	73.436					73.4				
IS		13C-2,3,4,7,8-PeCDF	1.21e+07	1.63 y	0.94	30:16	72.176					72.2				
IS		13C-1,2,3,4,7,8-HxCDF	9.76e+06	0.51 y	0.86	32:56	88.844					88.8				
IS		13C-1,2,3,6,7,8-HxCDF	1.18e+07	0.52 y	1.02	33:04	89.940					89.9				
IS		13C-2,3,4,6,7,8-HxCDF	1.11e+07	0.50 y	0.95	33:40	91.065					91.1				
IS		13C-1,2,3,7,8,9-HxCDF	9.68e+06	0.49 y	0.87	34:38	87.039					87.0				
IS		13C-1,2,3,4,6,7,8-HpCDF	8.36e+06	0.44 y	0.81	36:27	80.658					80.7				
IS		13C-1,2,3,4,7,8,9-HpCDF	7.11e+06	0.43 y	0.63	38:15	87.794					87.8				
IS		13C-OCDF	1.72e+07	0.89 y	0.78	41:11	171.26					85.6				
C/Up		37Cl-2,3,7,8-TCDD	3.97e+06		1.22	26:05	28.739					71.8				
RS/RT		13C-1,2,3,4-TCDD	1.14e+07	0.79 y	1.00	25:29	100.00						Integrations			Reviewed
RS		13C-1,2,3,4-TCDF	1.80e+07	0.81 y	1.00	24:05	100.00						by			by
RS/RT		13C-1,2,3,4,6,9-HxCDF	1.28e+07	0.50 y	1.00	33:21	100.00						Analyst: <u>DB</u>			Analyst: <u>CT</u>
													Date: <u>7/25/19</u>			Date: <u>08/08/19</u>

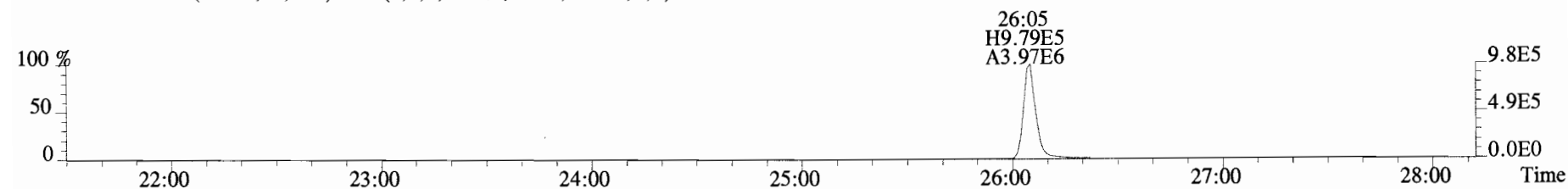
File:190626D2 #1-513 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



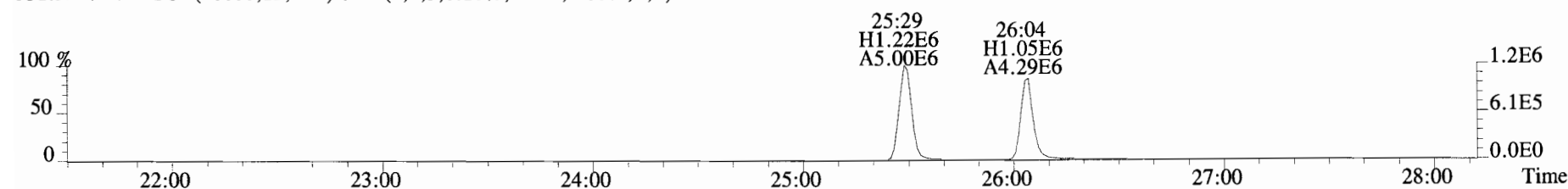
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



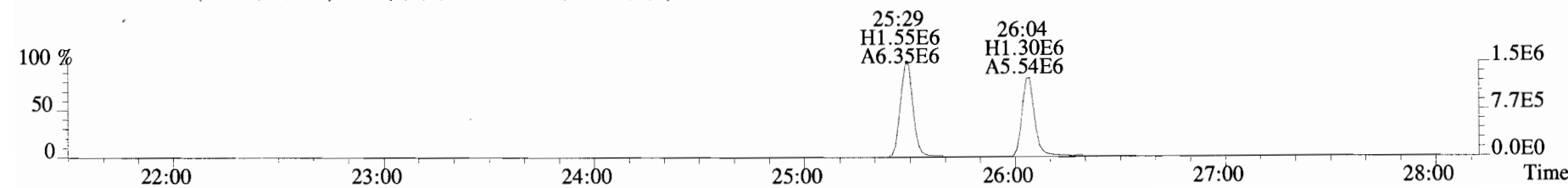
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



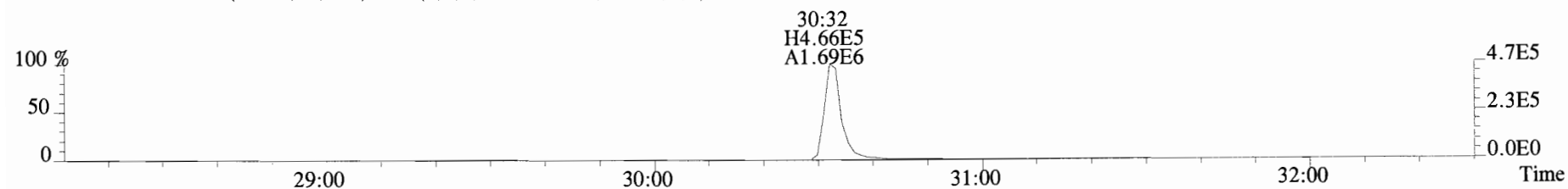
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



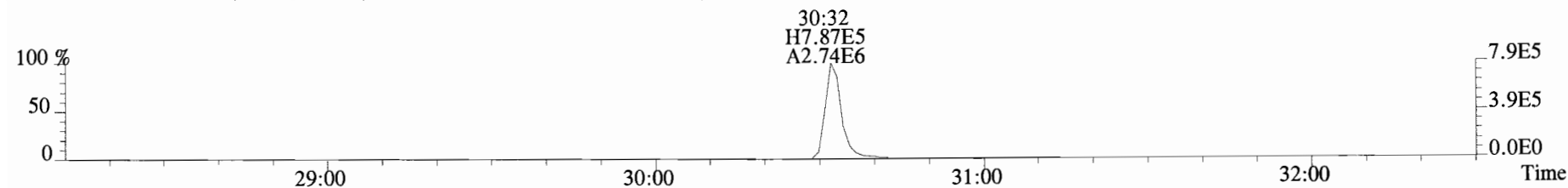
File:190626D2 #1-185 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD DB5

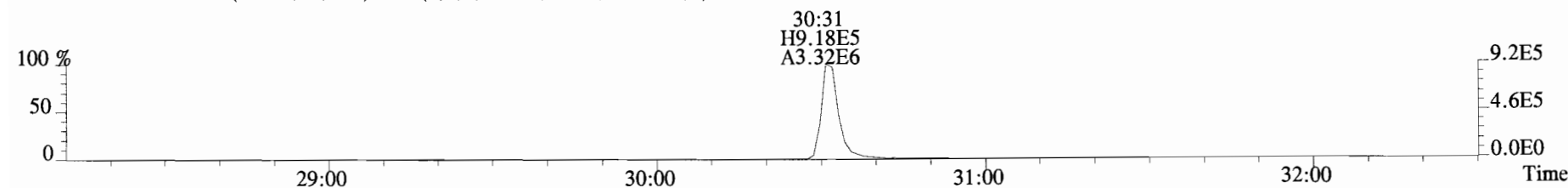
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



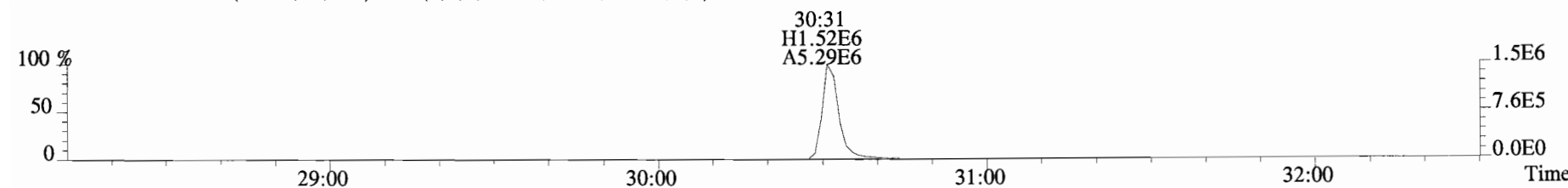
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



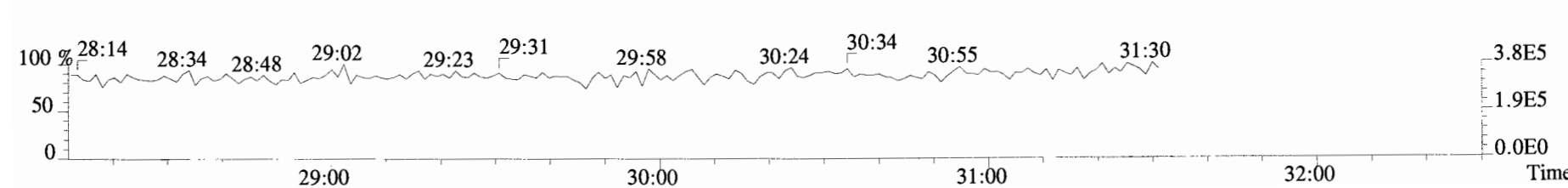
365.8978 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



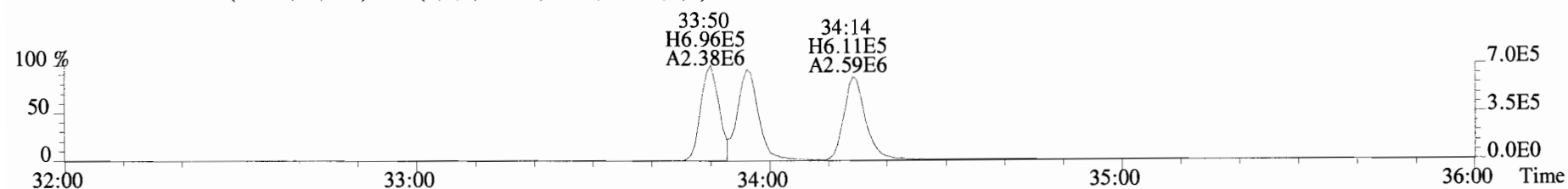
366.9792 S:2 F:2



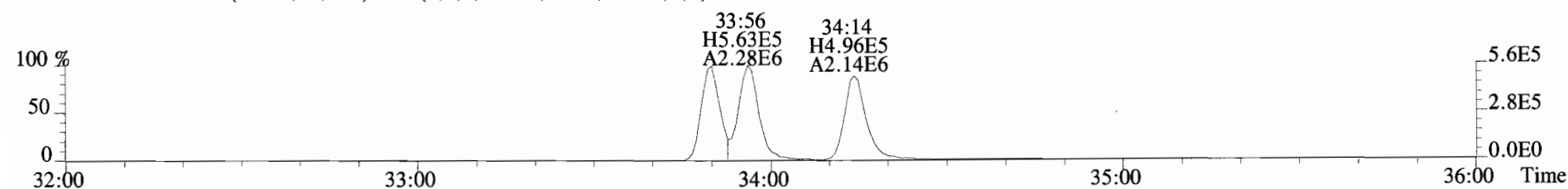
File:190626D2 #1-399 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5

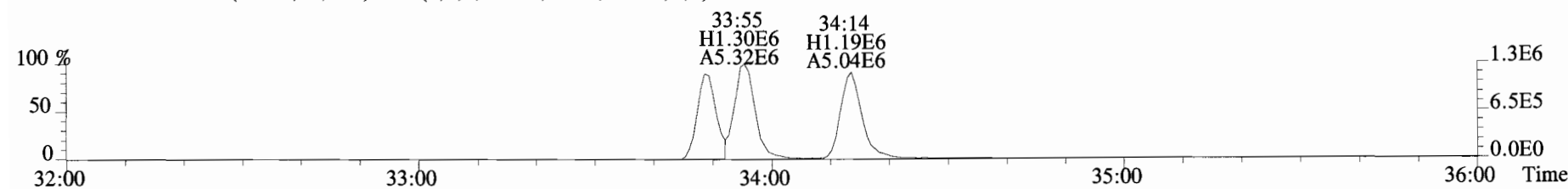
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



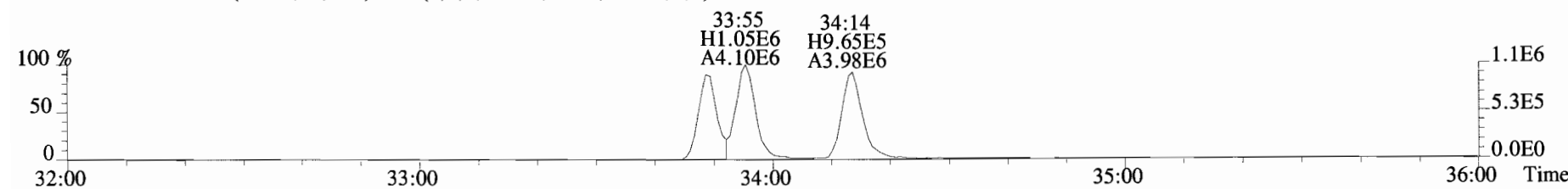
391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



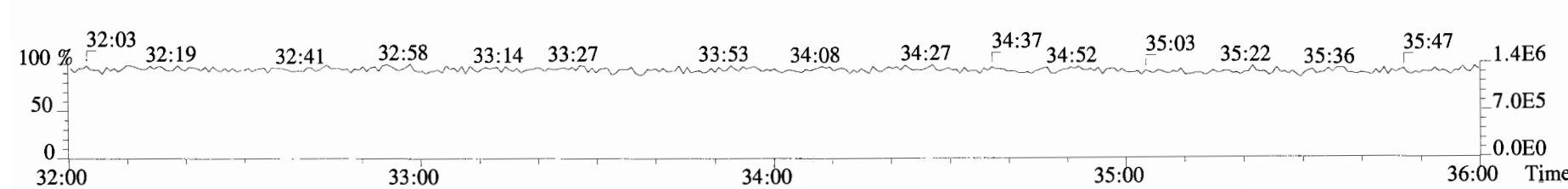
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



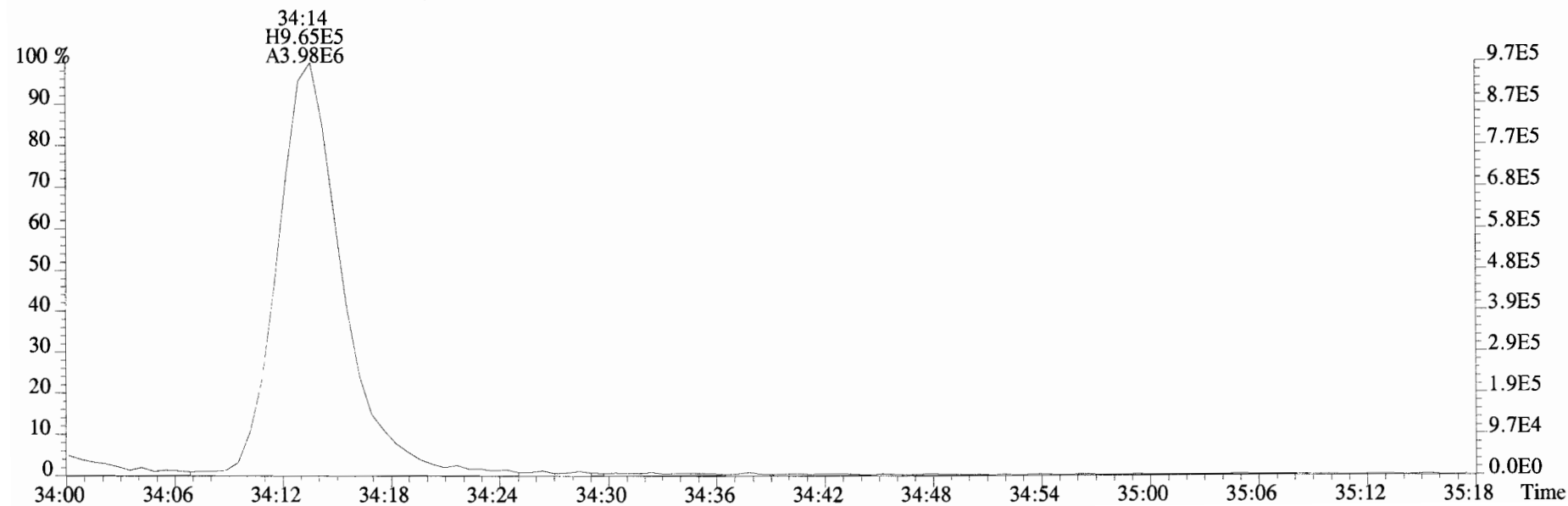
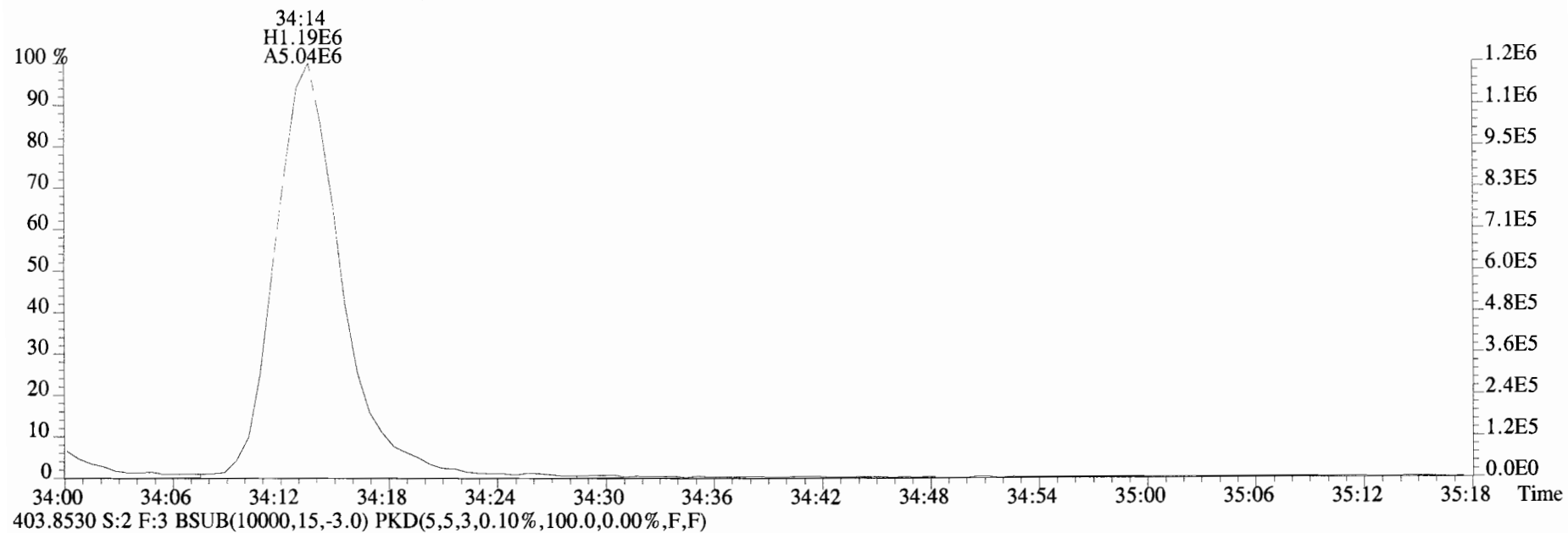
403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



392.9760 S:2 F:3



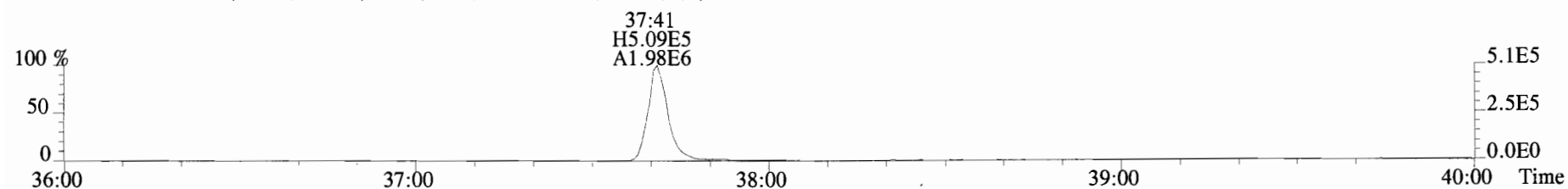
File:190626D2 #1-399 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



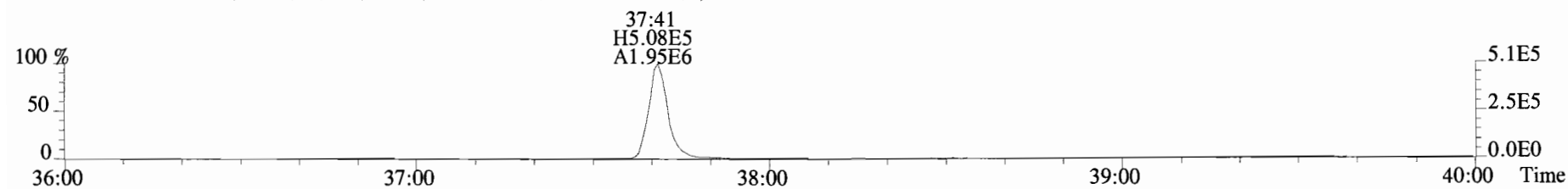
File:190626D2 #1-355 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD DB5

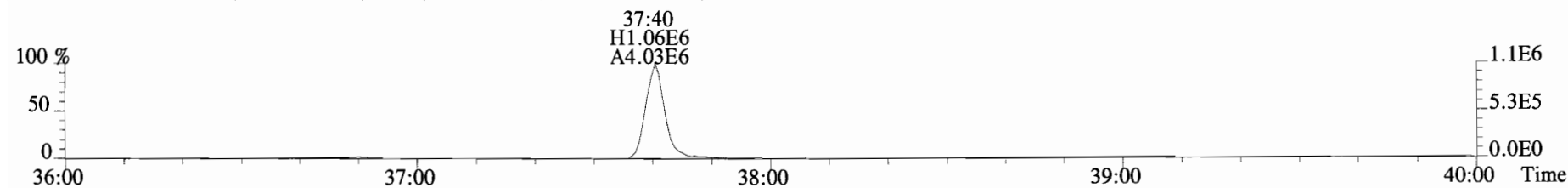
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



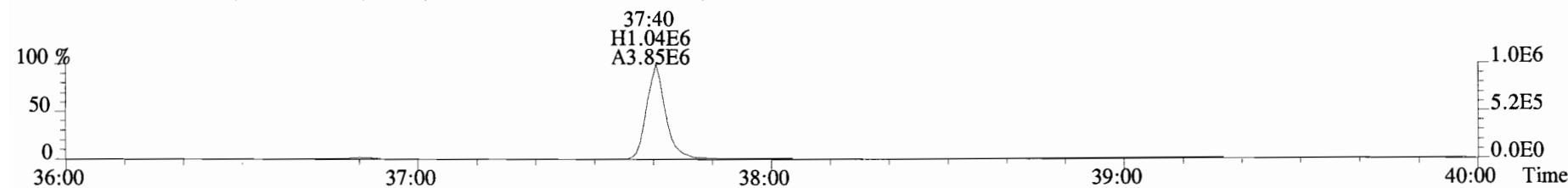
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



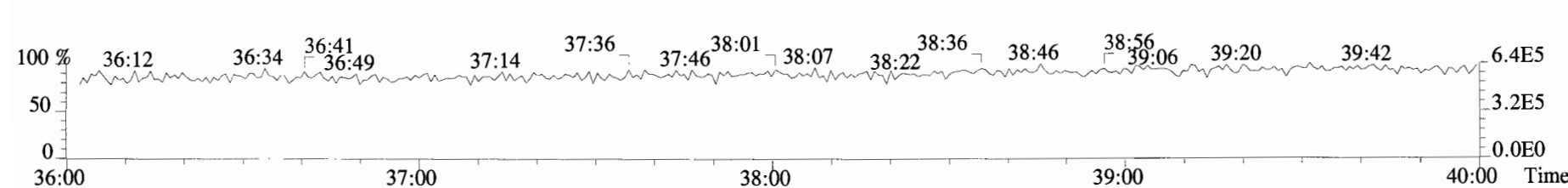
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



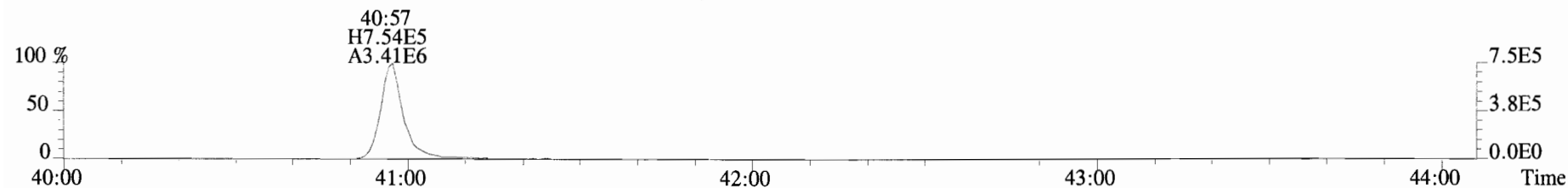
454.9728 S:2 F:4



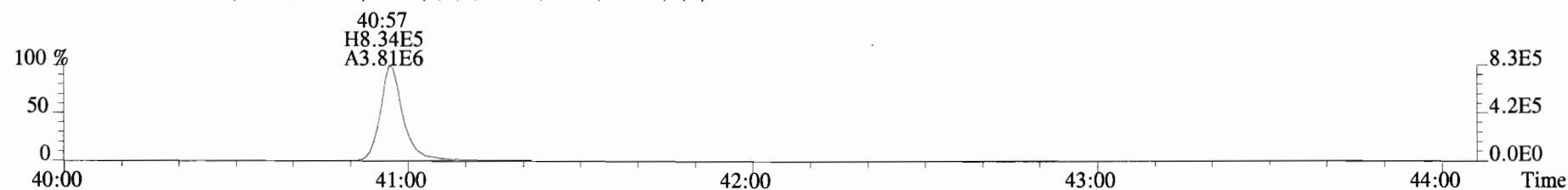
File:190626D2 #1-432 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5

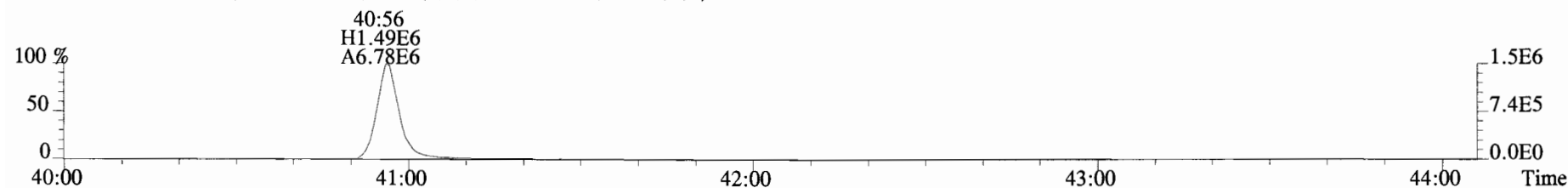
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



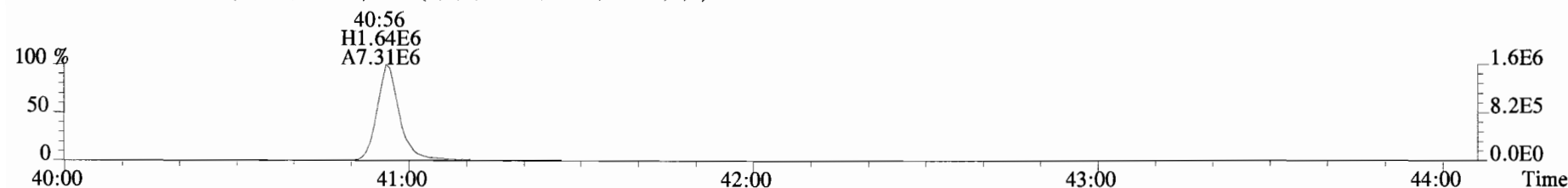
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



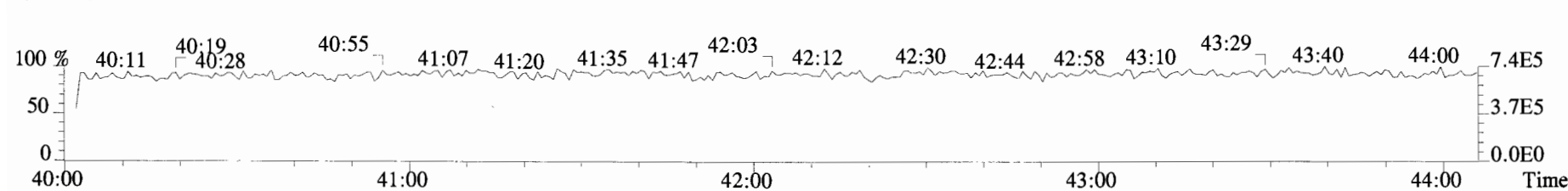
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



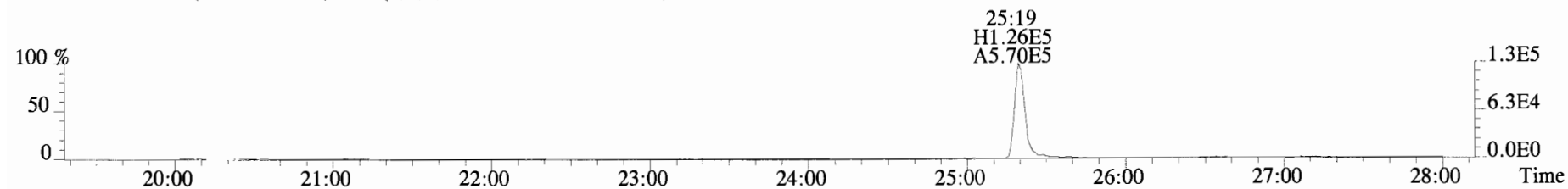
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



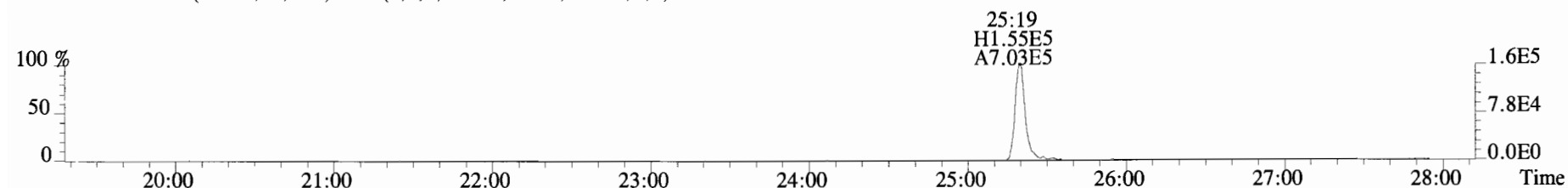
454.9728 S:2 F:5



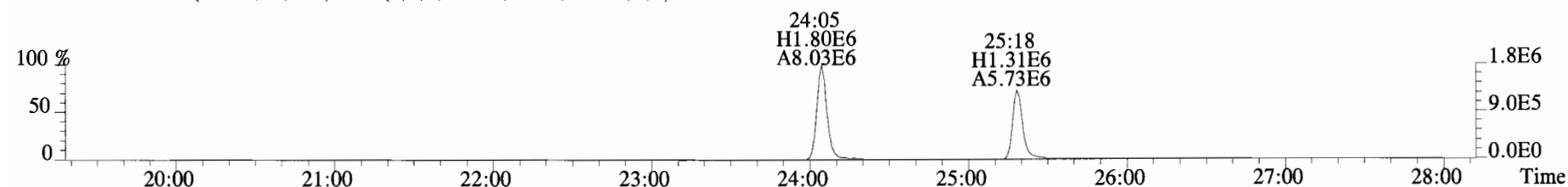
File:190626D2 #1-513 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



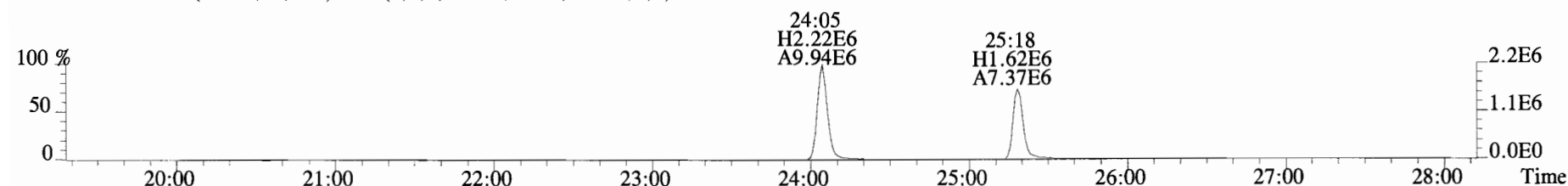
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



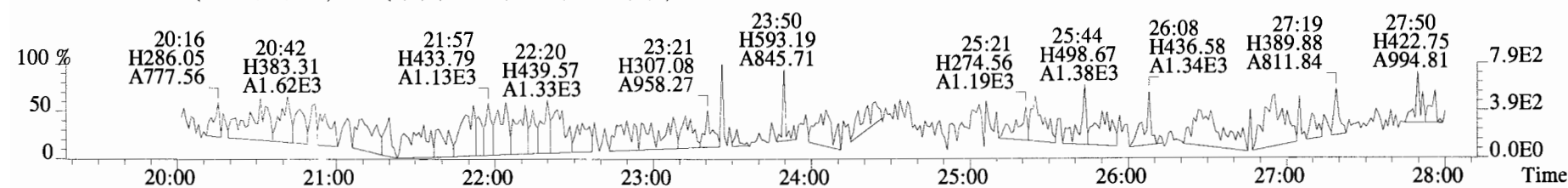
315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



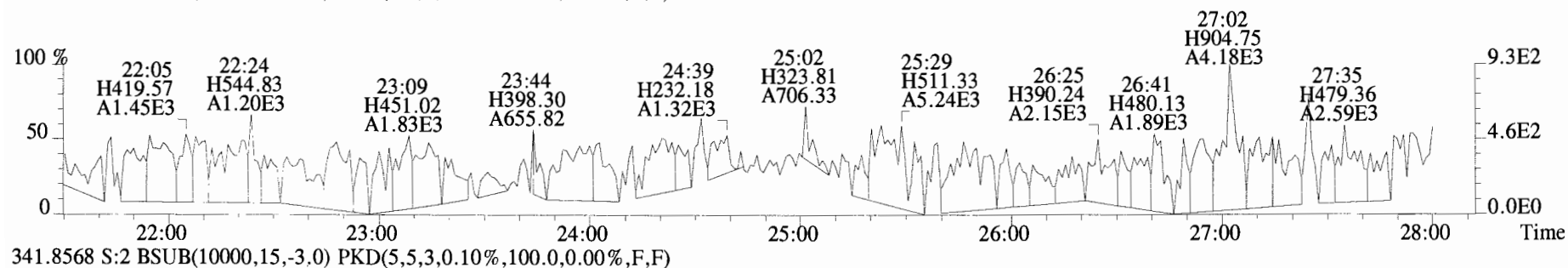
317.9389 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



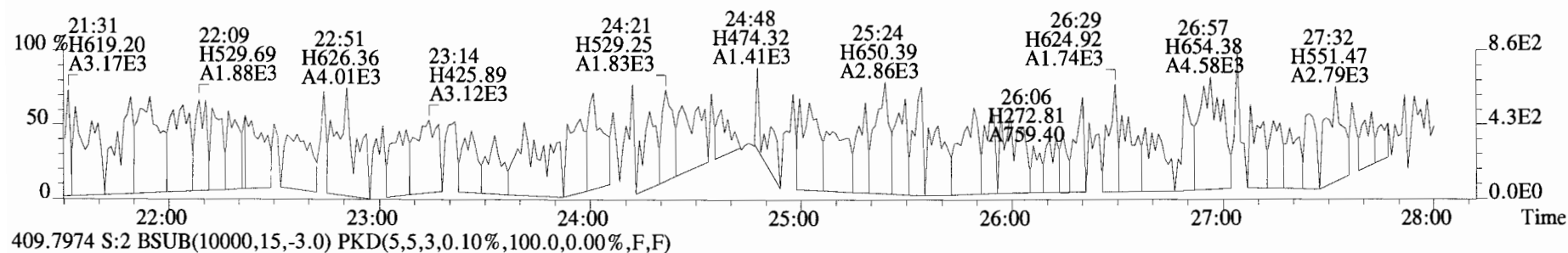
375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



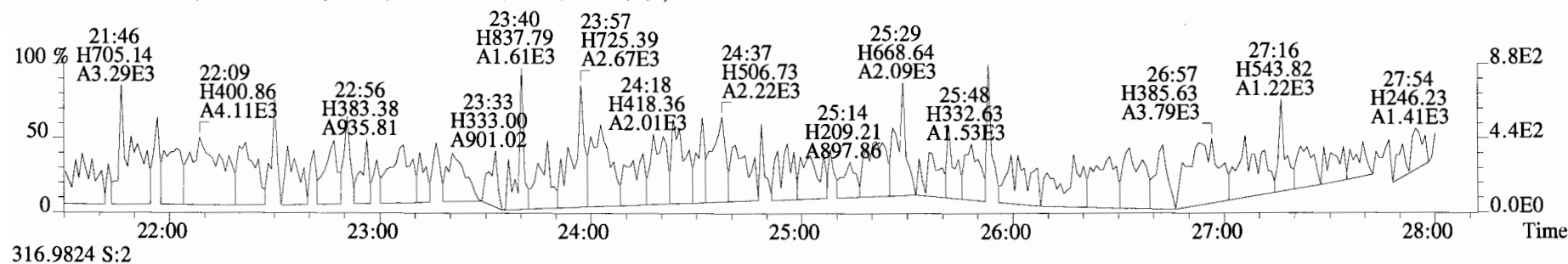
File:190626D2 #1-513 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD DB5
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



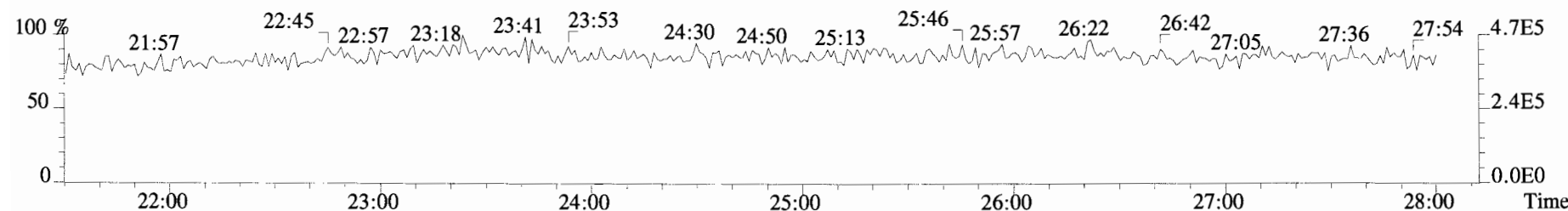
341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



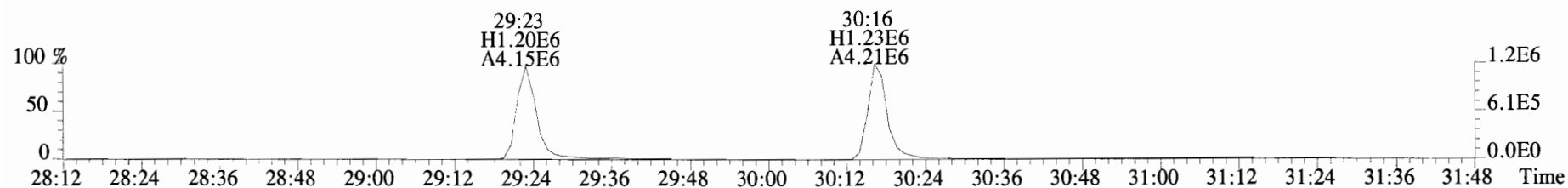
316.9824 S:2



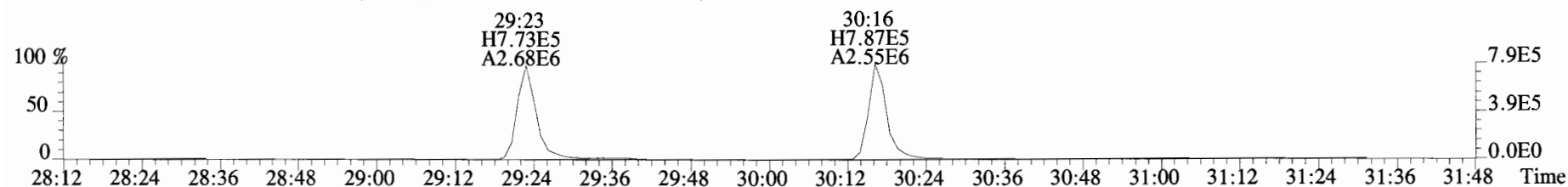
File:190626D2 #1-185 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5

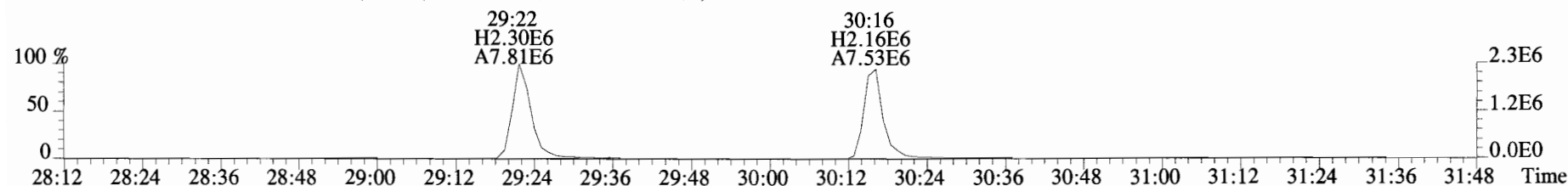
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



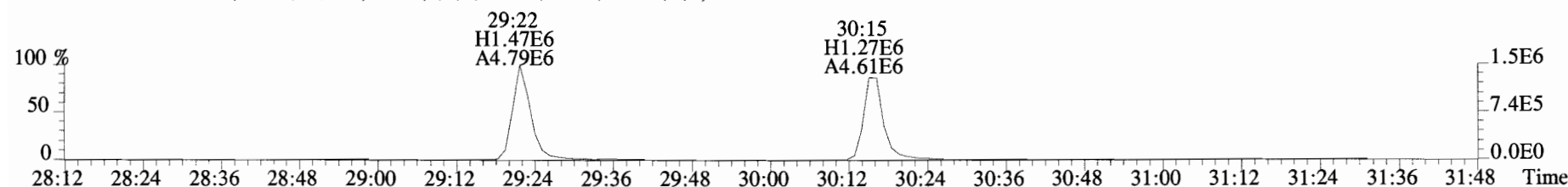
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



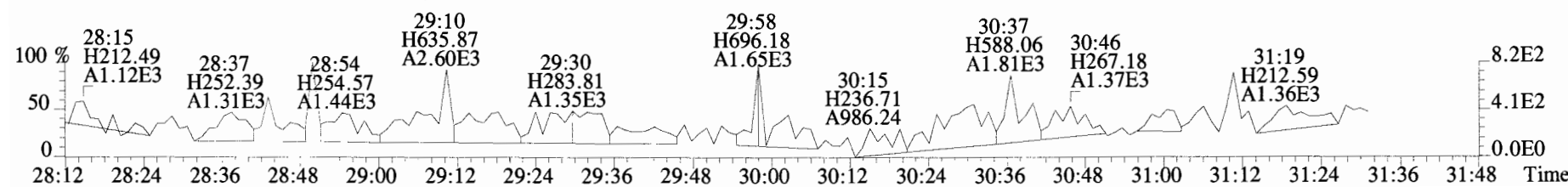
351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



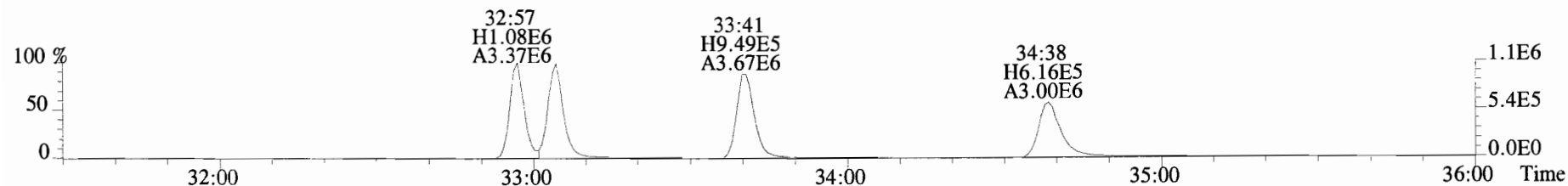
409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



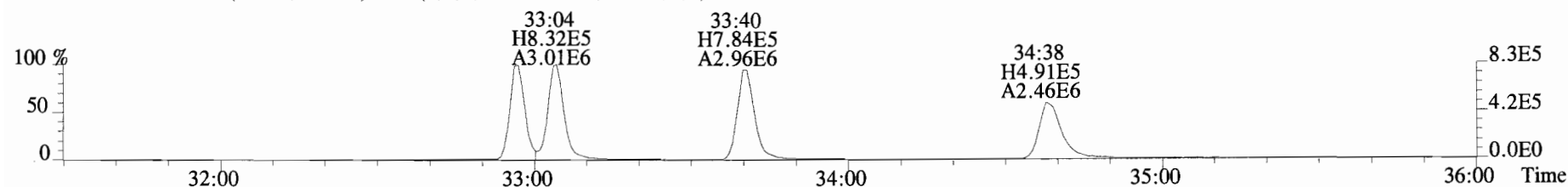
File:190626D2 #1-399 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5

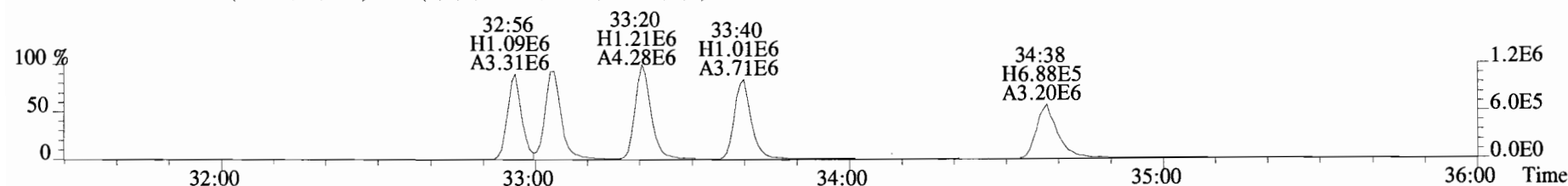
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



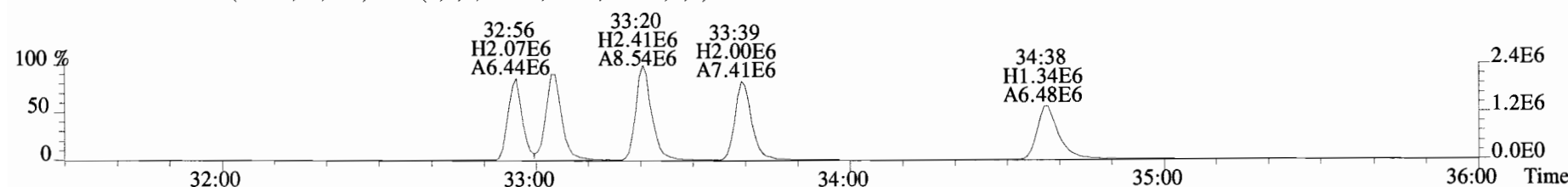
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



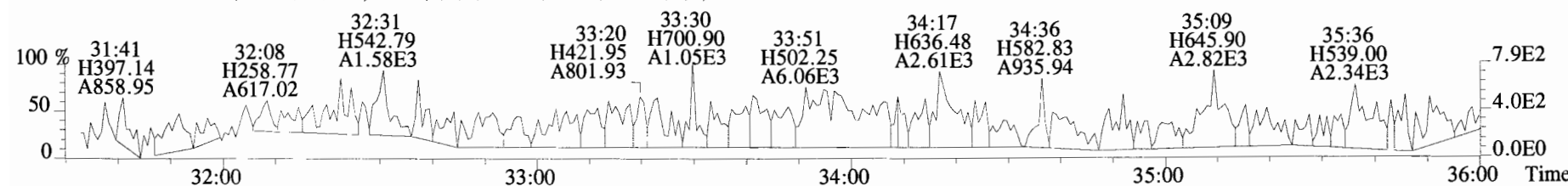
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



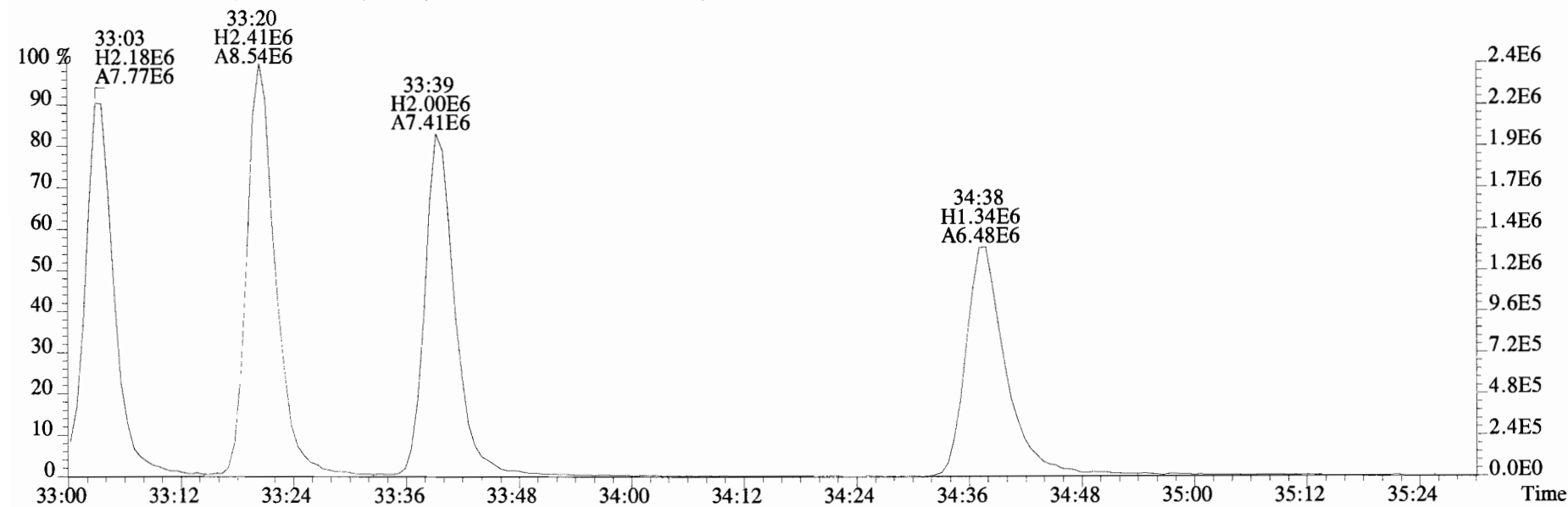
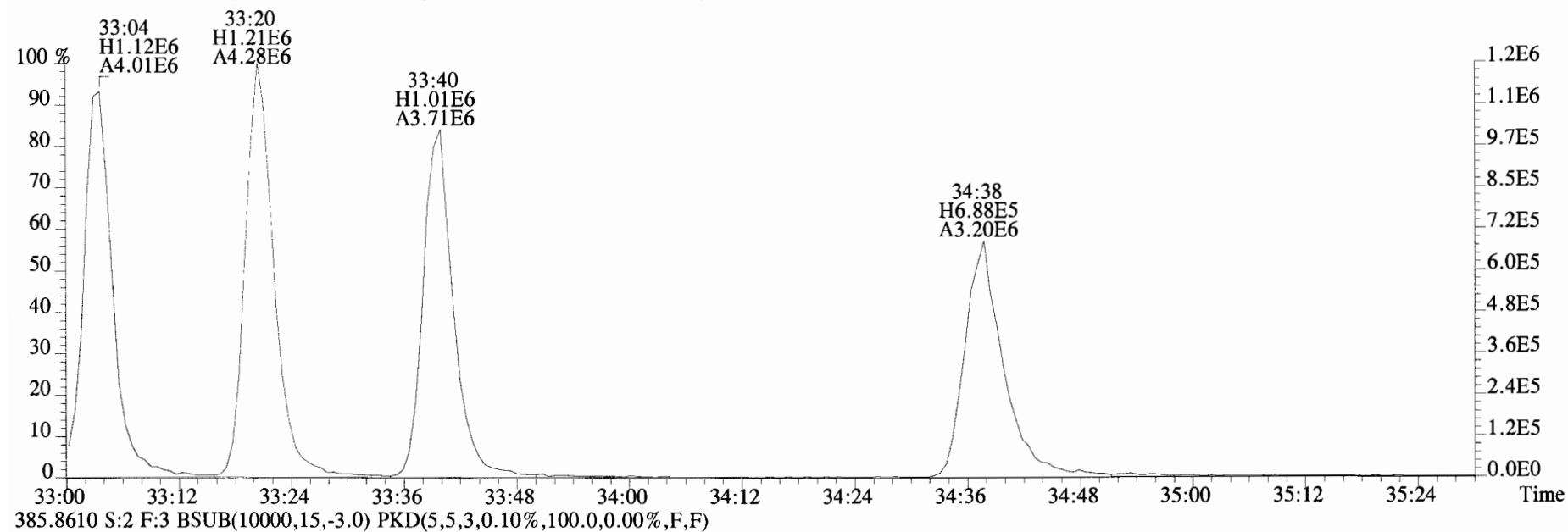
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



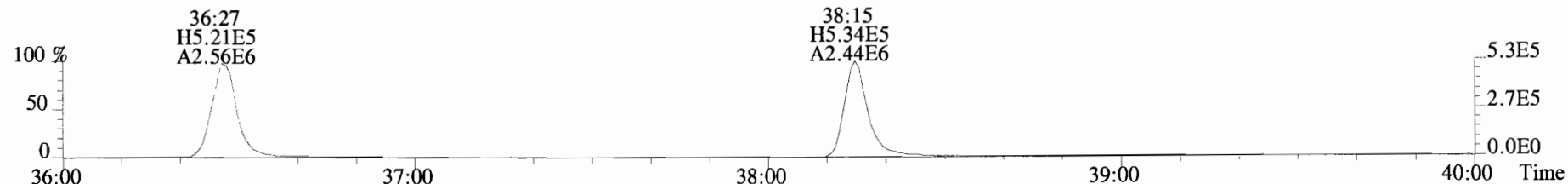
File:190626D2 #1-399 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD DB5
 383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



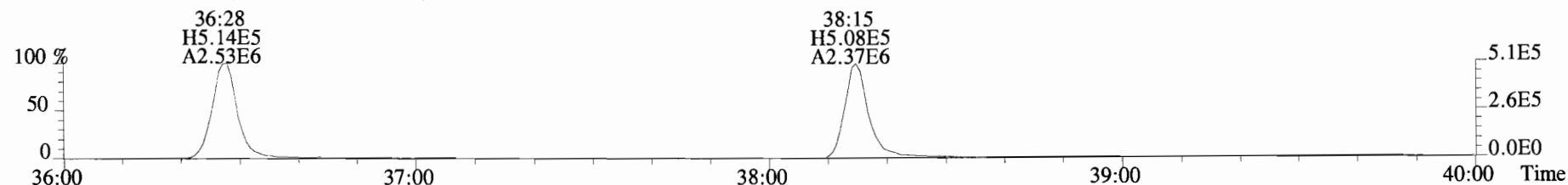
File:190626D2 #1-355 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5

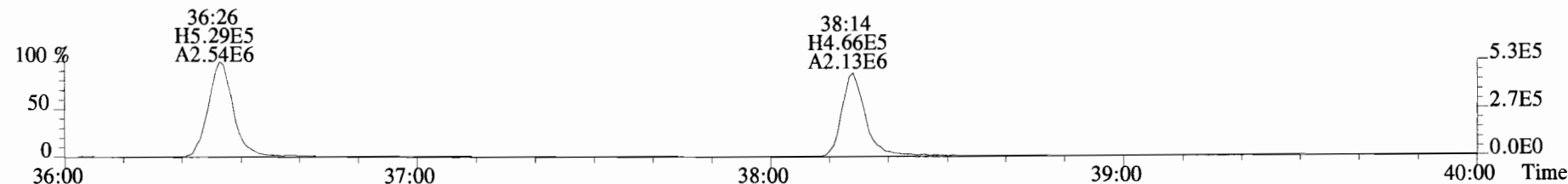
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



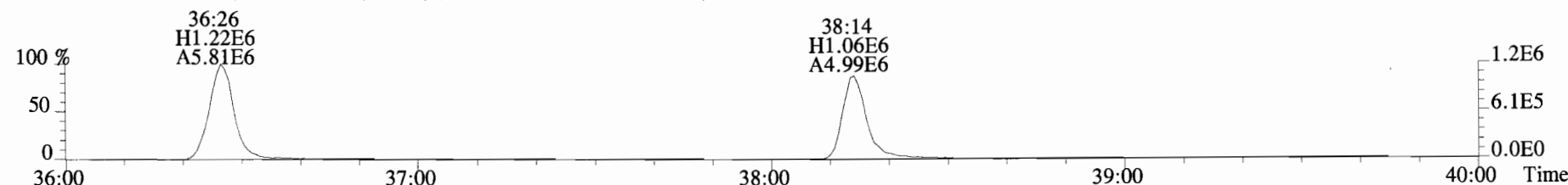
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



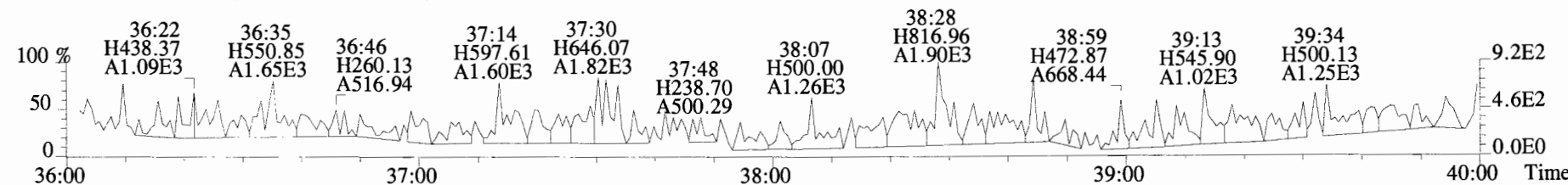
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



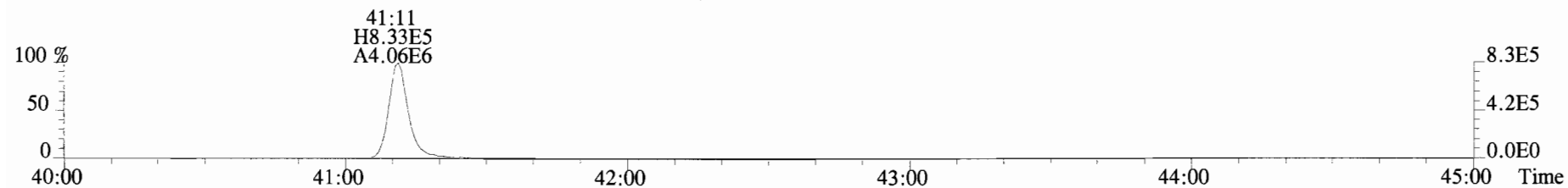
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



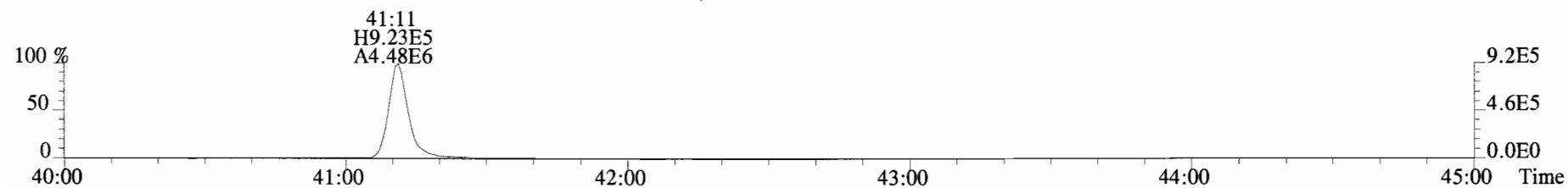
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



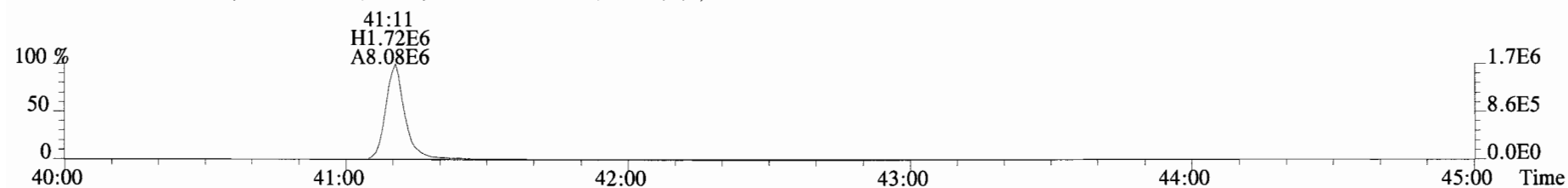
File:190626D2 #1-432 Acq:27-JUN-2019 05:28:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 Text:B9F0201-BS1 OPR 5 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



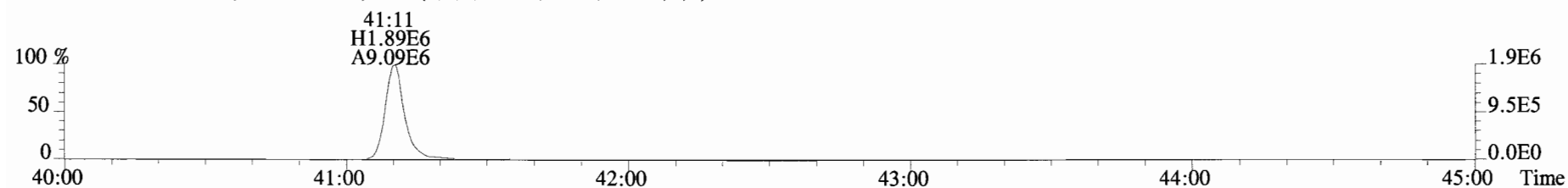
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



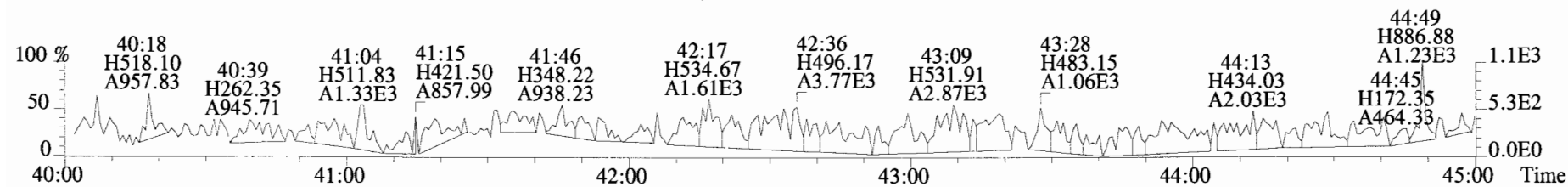
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: Method Blank
Lab ID: B9G0073-BLK1

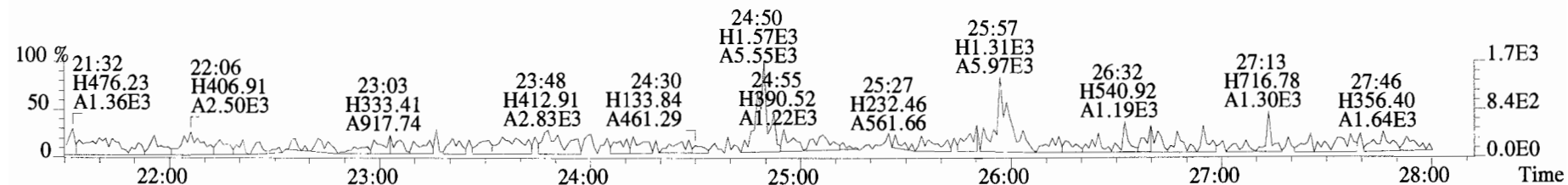
Filename: 190712D1 S:6 Acq:12-JUL-19 17:33:39
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.000

ConCal: ST190712D1-1
EndCAL: NA

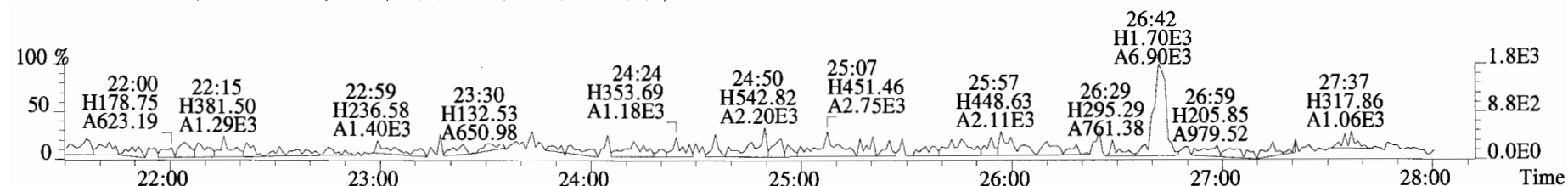
Page 5 of 5

							Name	Conc	EMPC	Qual	noise	DL			
							Total Tetra-Dioxins	*	*		131	0.118			
							Total Penta-Dioxins	*	*		149	0.128			
							Total Hexa-Dioxins	*	*		134	0.190			
							Total Hepta-Dioxins	*	*		137	0.186			
							Total Tetra-Furans	*	*		232	0.151			
							Total Penta-Furans	0.0000	0.0000		165	0.148			
							Total Hexa-Furans	*	*		154	0.102			
							Total Hepta-Furans	*	*		128	0.111			
							Rec	Qual							
IS	13C-2,3,7,8-TCDD	7.63e+06	0.80 y	1.11	26:41	310.10	77.5								
IS	13C-1,2,3,7,8-PeCDD	6.25e+06	0.65 y	0.98	30:58	288.02	72.0								
IS	13C-1,2,3,4,7,8-HxCDD	5.67e+06	1.32 y	0.68	34:19	339.53	84.9								
IS	13C-1,2,3,6,7,8-HxCDD	6.38e+06	1.26 y	0.84	34:26	306.62	76.7								
IS	13C-1,2,3,7,8,9-HxCDD	6.35e+06	1.27 y	0.81	34:44	316.61	79.2								
IS	13C-1,2,3,4,6,7,8-HpCDD	5.60e+06	1.04 y	0.69	38:07	330.39	82.6								
IS	13C-OCDD	9.01e+06	0.89 y	0.62	41:29	583.33	72.9								
IS	13C-2,3,7,8-TCDF	1.05e+07	0.79 y	1.05	25:58	281.09	70.3								
IS	13C-1,2,3,7,8-PeCDF	9.62e+06	1.58 y	0.95	29:51	282.57	70.6								
IS	13C-2,3,4,7,8-PeCDF	9.19e+06	1.59 y	0.94	30:43	275.41	68.9								
IS	13C-1,2,3,4,7,8-HxCDF	7.35e+06	0.49 y	0.86	33:24	347.01	86.8								
IS	13C-1,2,3,6,7,8-HxCDF	8.22e+06	0.51 y	1.02	33:32	325.50	81.4								
IS	13C-2,3,4,6,7,8-HxCDF	7.86e+06	0.52 y	0.95	34:09	334.10	83.5								
IS	13C-1,2,3,7,8,9-HxCDF	7.41e+06	0.51 y	0.87	35:09	345.88	86.5								
IS	13C-1,2,3,4,6,7,8-HpCDF	6.36e+06	0.42 y	0.81	36:59	318.35	79.6								
IS	13C-1,2,3,4,7,8,9-HpCDF	5.10e+06	0.43 y	0.63	38:41	326.44	81.6								
IS	13C-OCDF	1.15e+07	0.90 y	0.78	41:43	597.30	74.7								
C/Up	37C1-2,3,7,8-TCDD	3.24e+06		1.22	26:42	119.84	74.9	Integrations				Reviewed			
							by	DB				by			
							Analyst:					Analyst: CT			
RS/RT	13C-1,2,3,4-TCDD	8.90e+06	0.77 y	1.00	26:08	400.00									
RS	13C-1,2,3,4-TCDF	1.43e+07	0.81 y	1.00	24:50	400.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	9.89e+06	0.51 y	1.00	33:50	400.00						7/15/19	7/15/19		

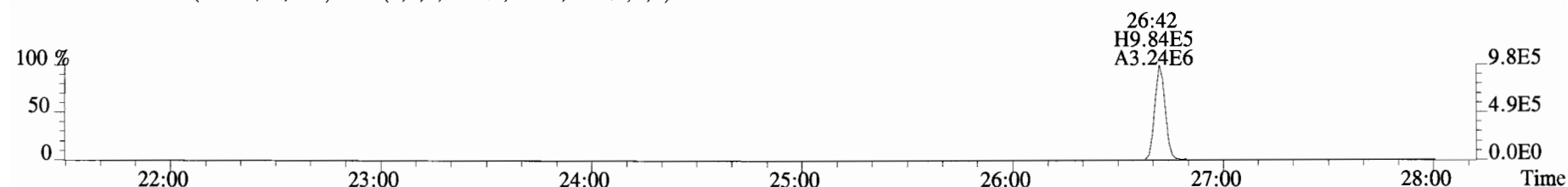
File:190712D1 #1-513 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
 319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



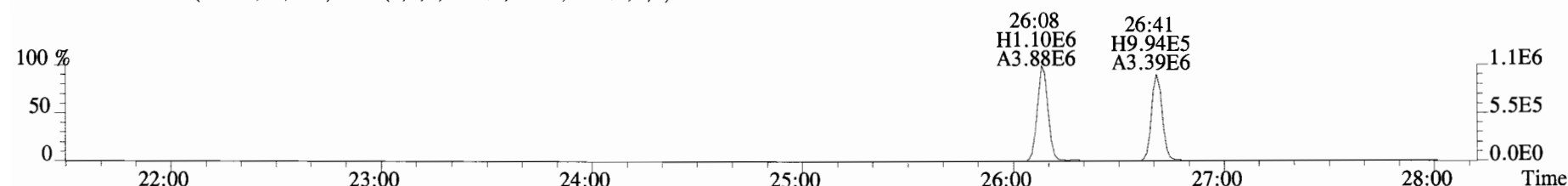
321.8936 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



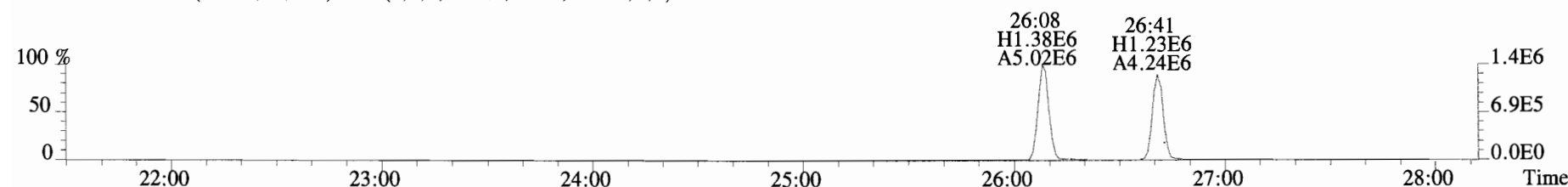
327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



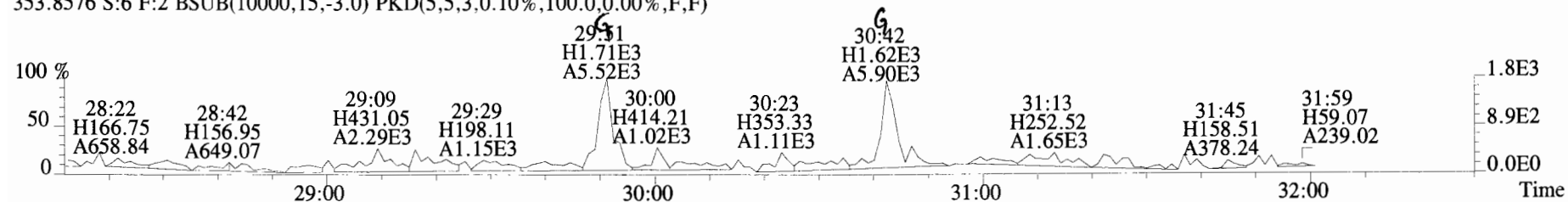
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



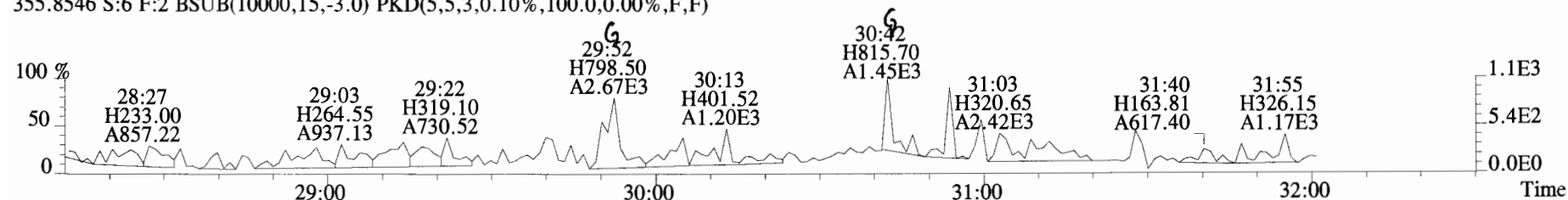
333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



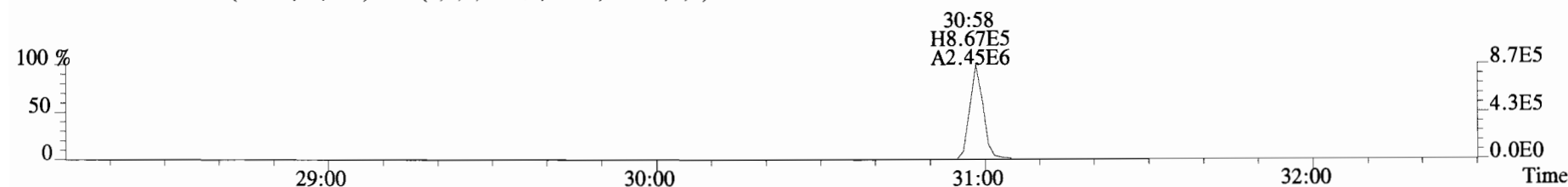
File:190712D1 #1-211 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
 353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



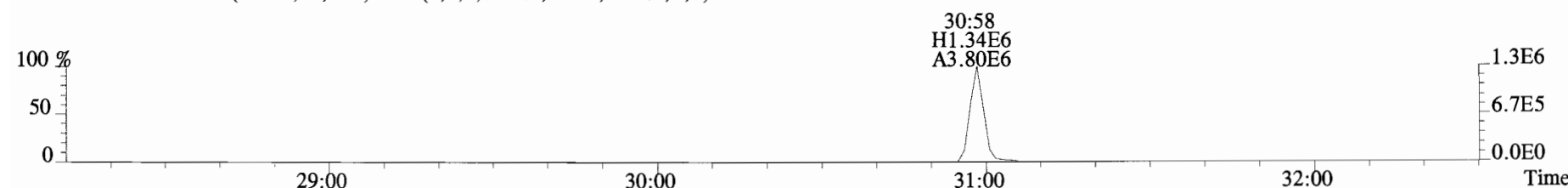
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



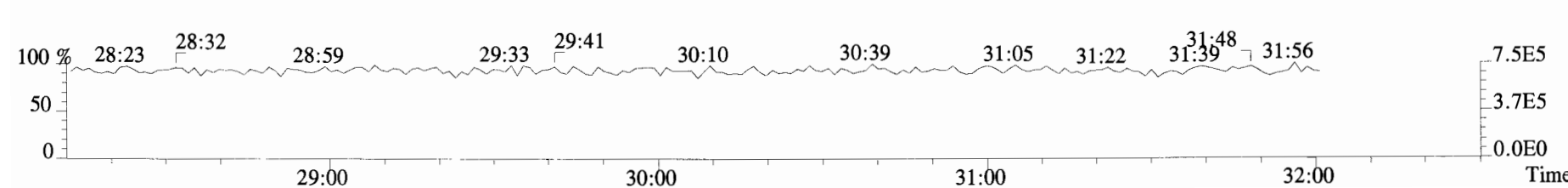
365.8978 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



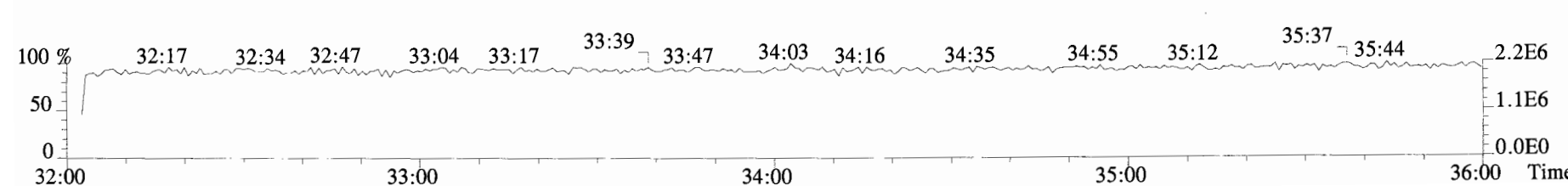
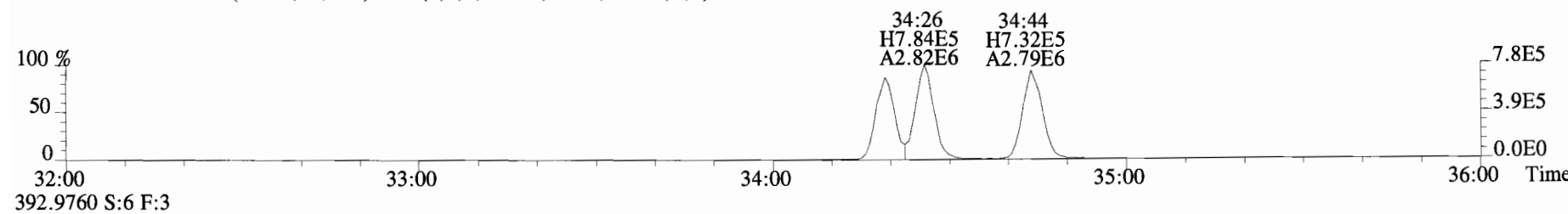
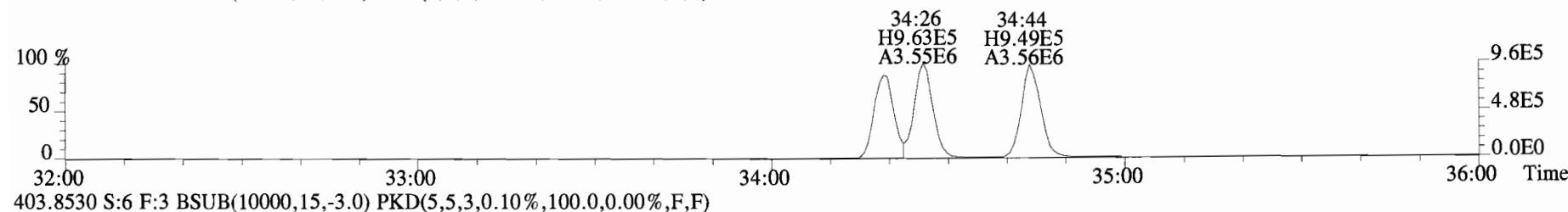
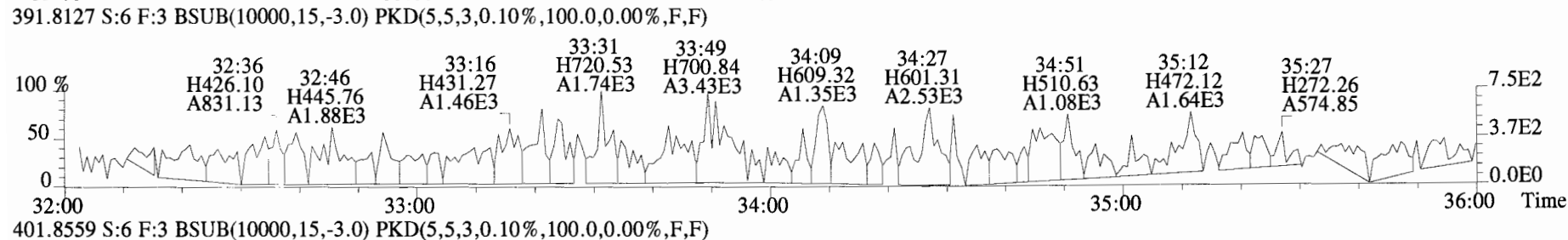
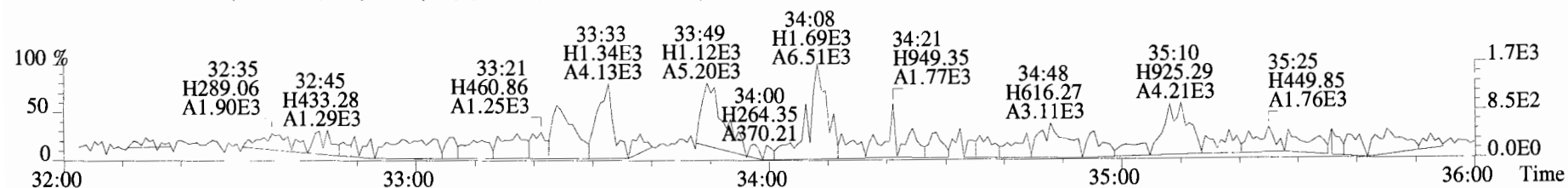
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



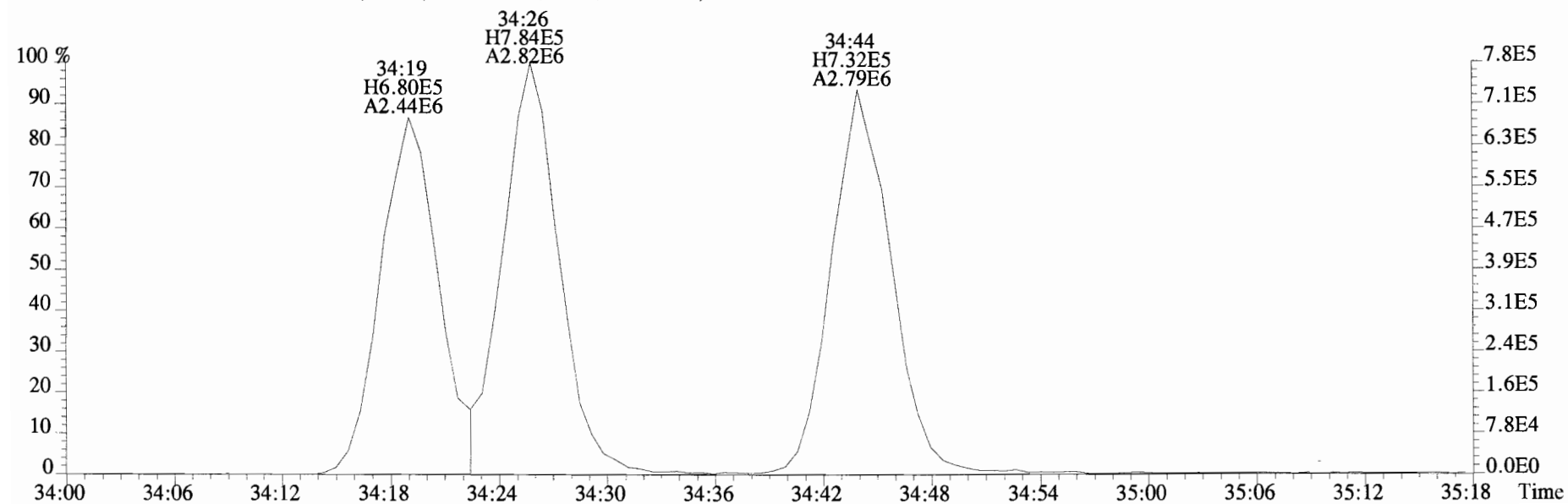
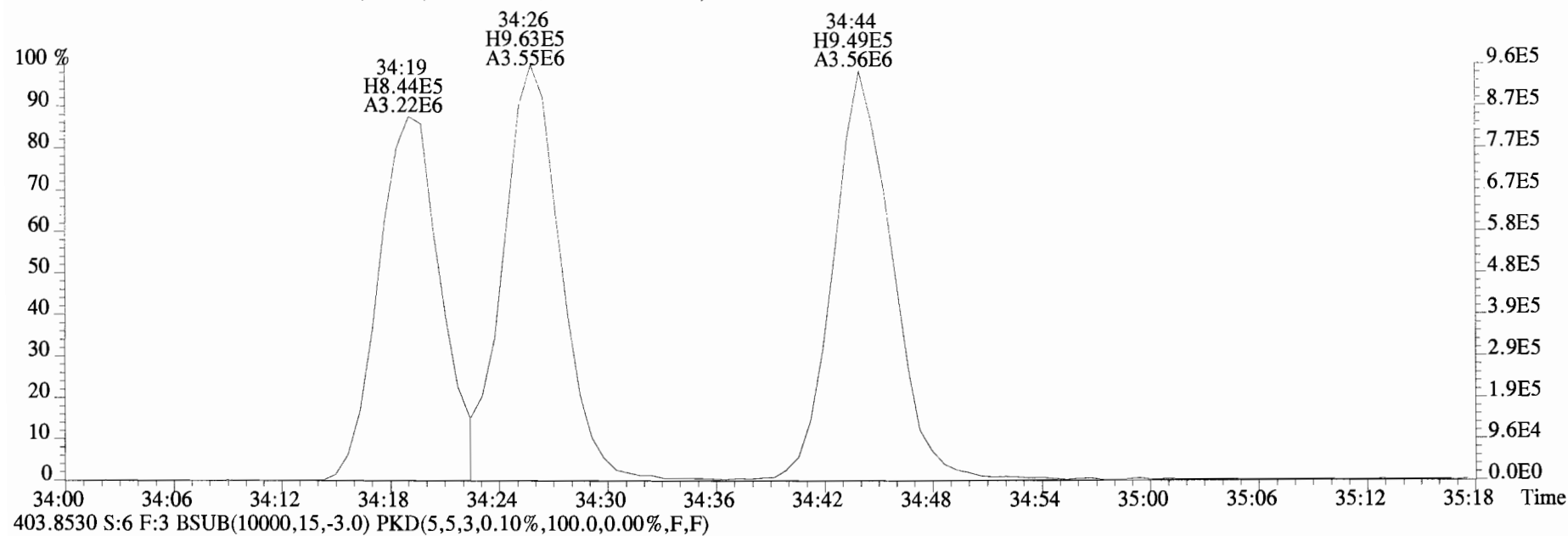
366.9792 S:6 F:2



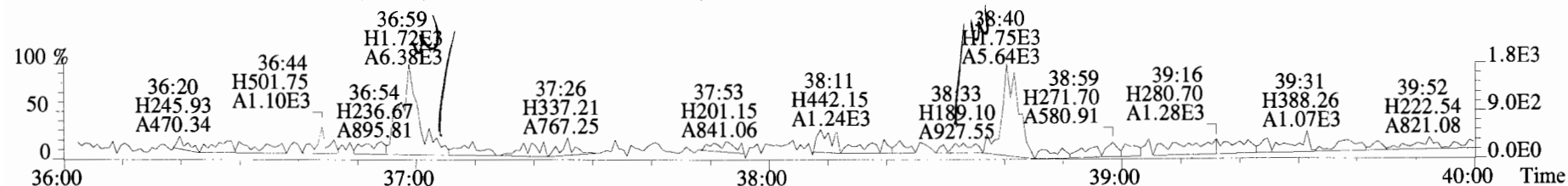
File:190712D1 #1-355 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
 389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



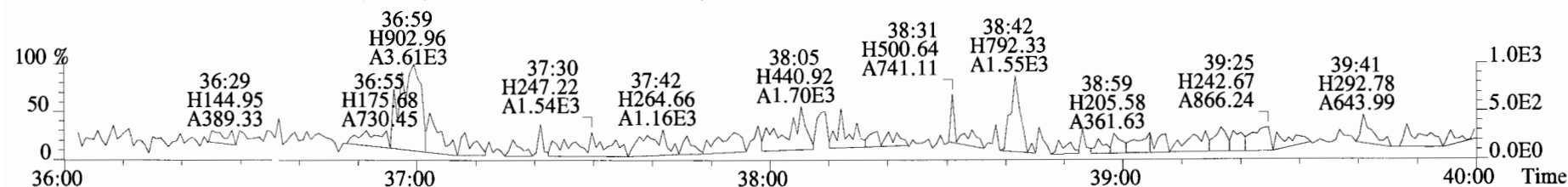
File:190712D1 #1-355 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



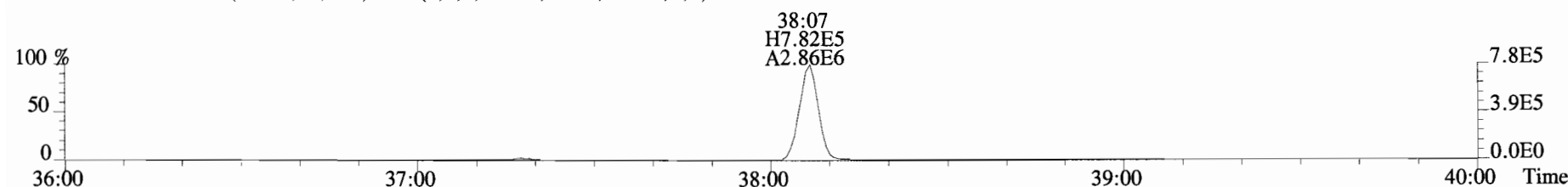
File:190712D1 #1-355 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



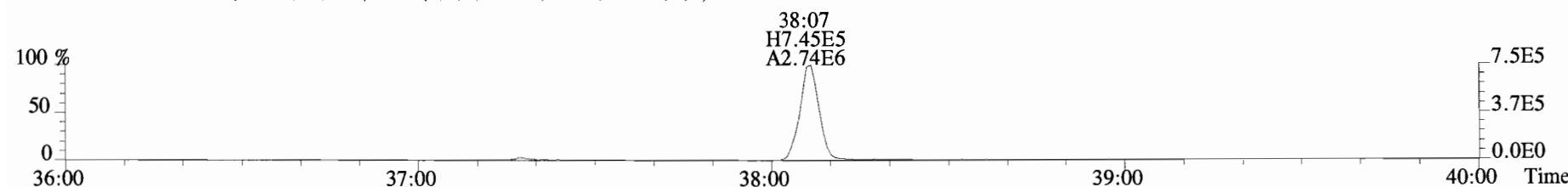
425.7737 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



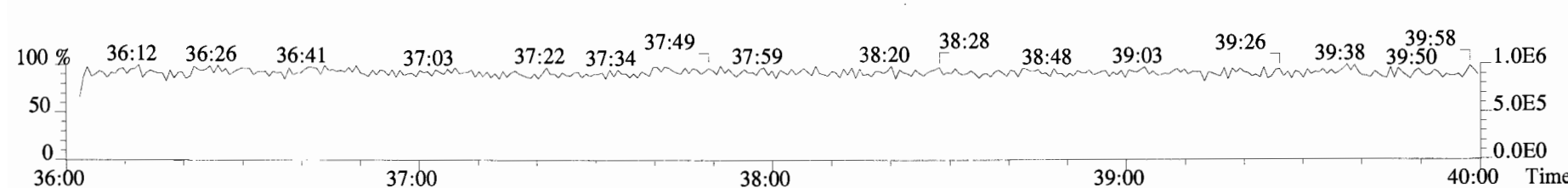
435.8169 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



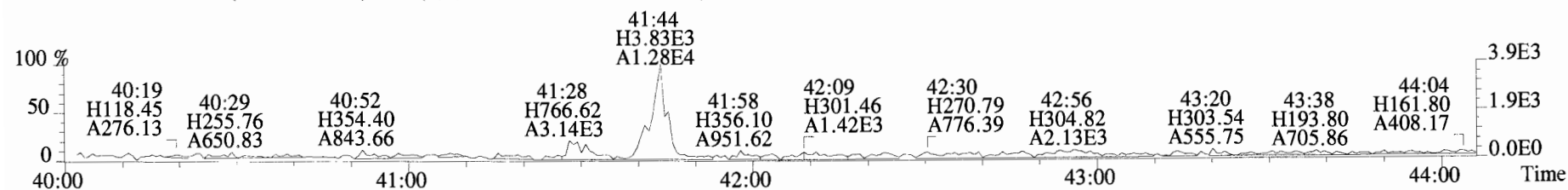
437.8140 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



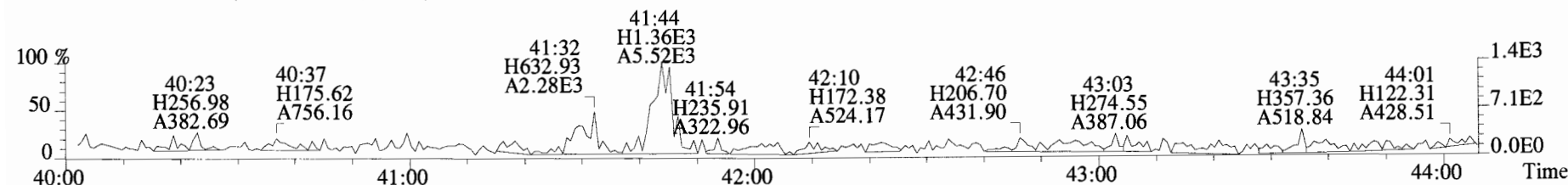
454.9728 S:6 F:4



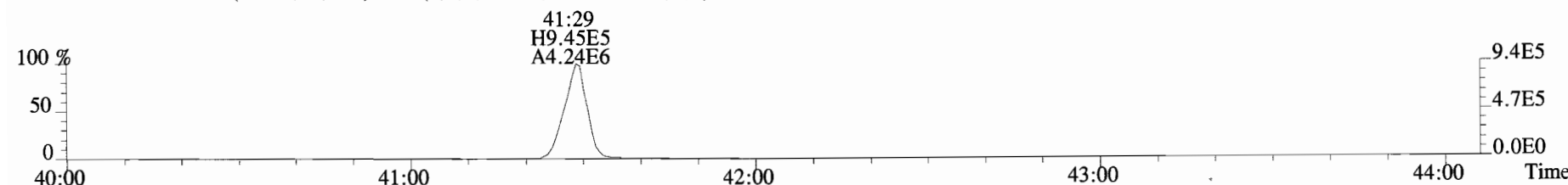
File:190712D1 #1-432 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



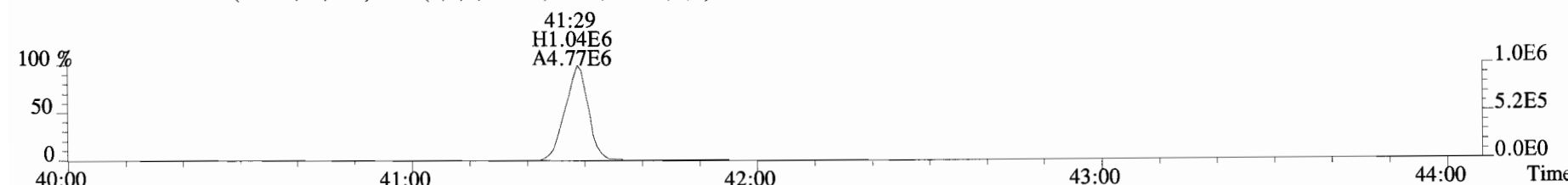
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



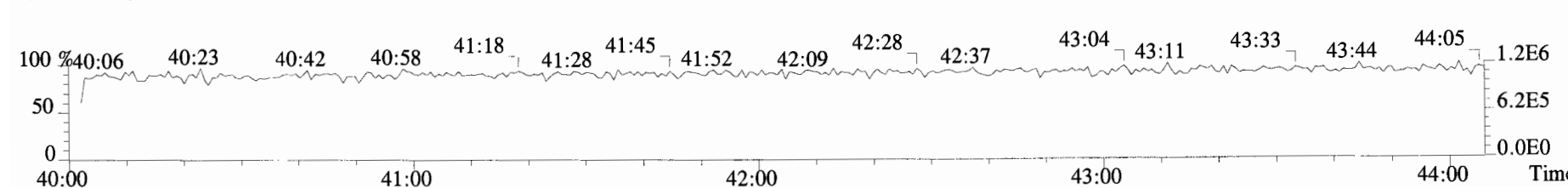
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



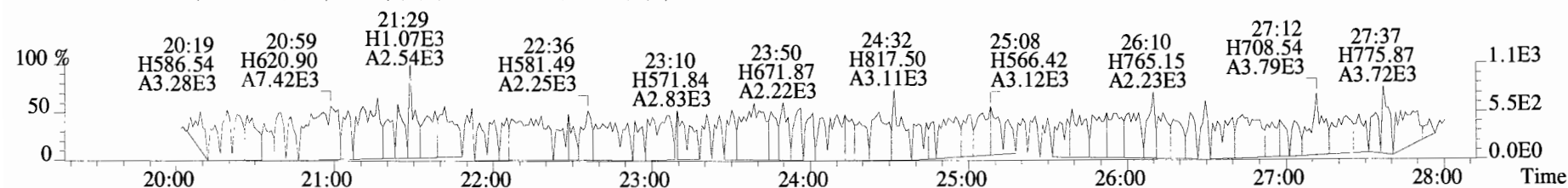
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



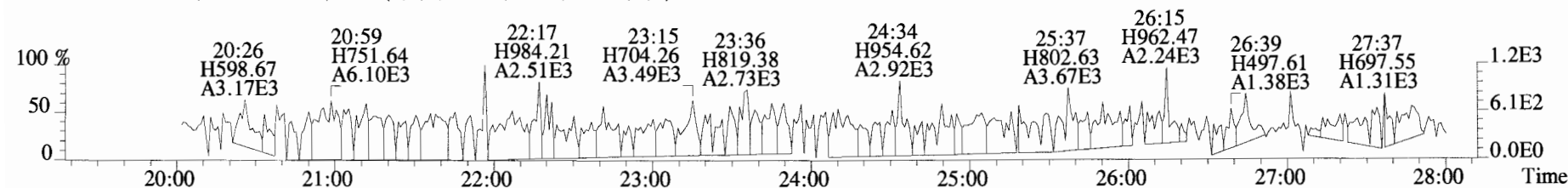
454.9728 S:6 F:5



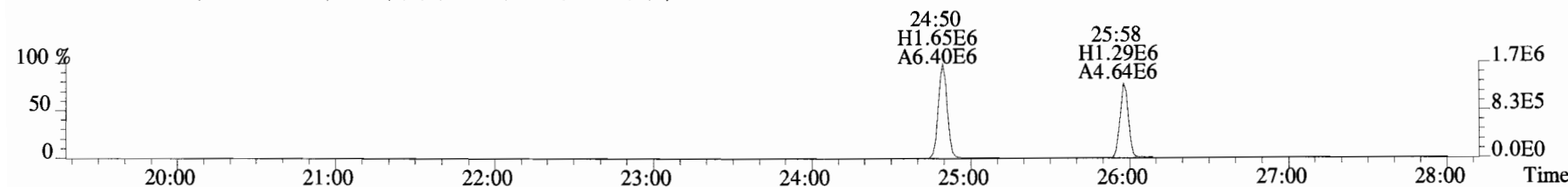
File:190712D1 #1-513 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



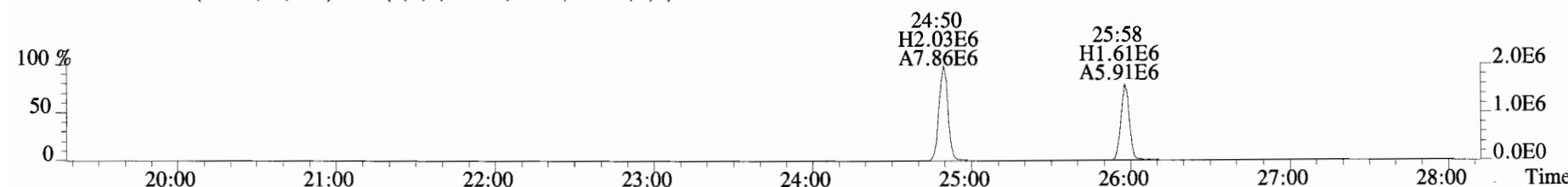
305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



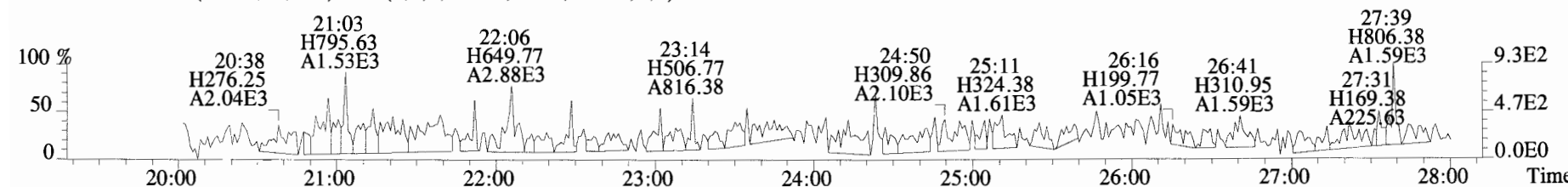
315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



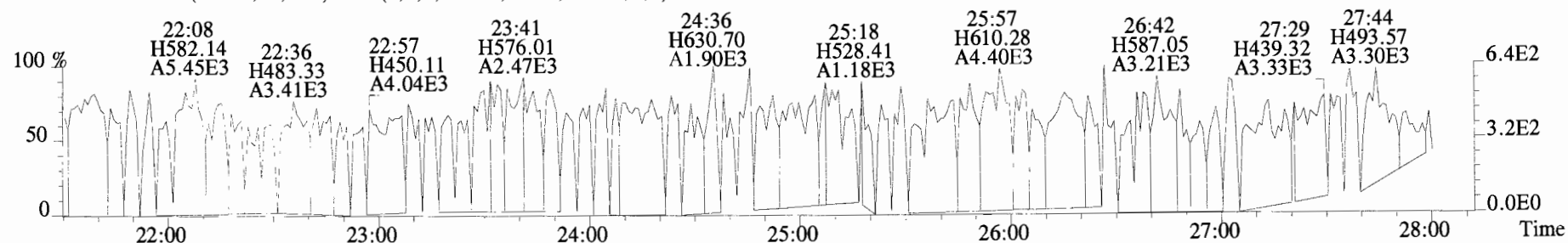
317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



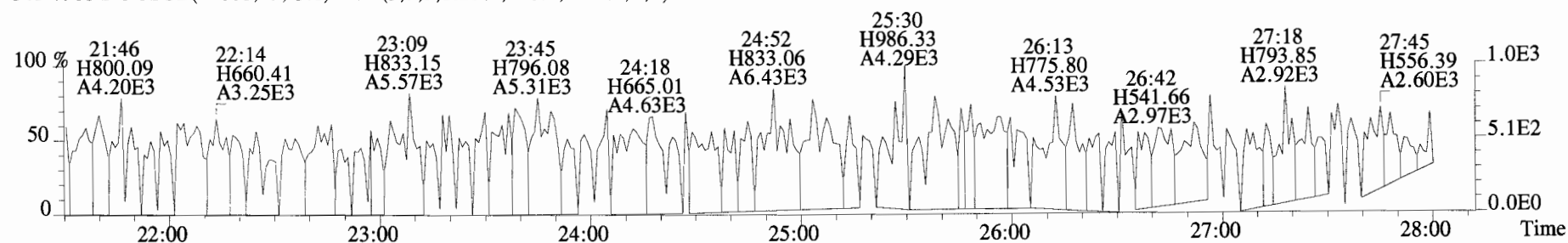
375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



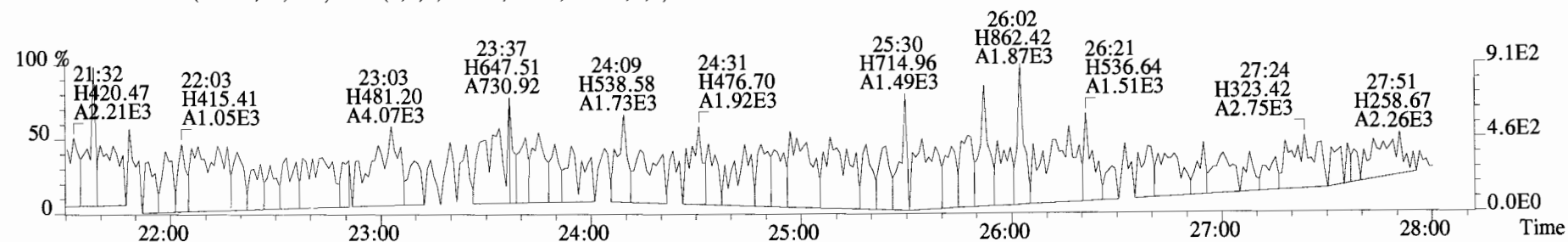
File:190712D1 #1-513 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



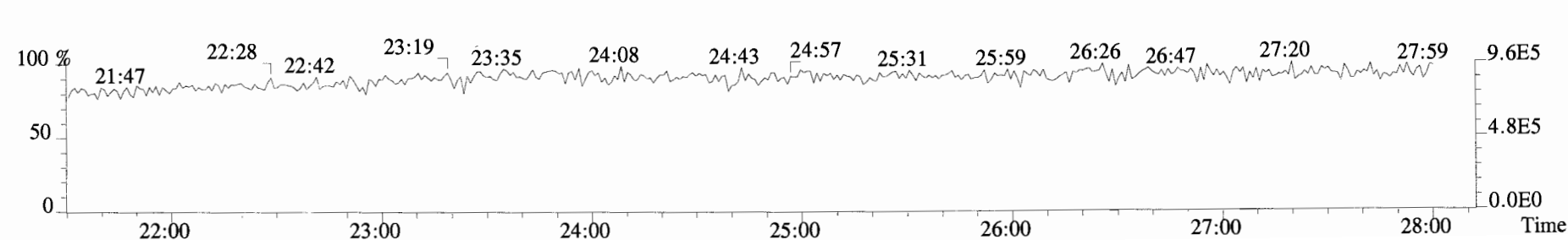
341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



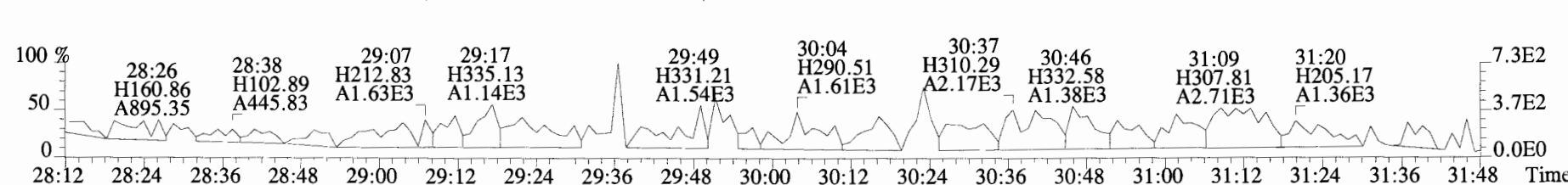
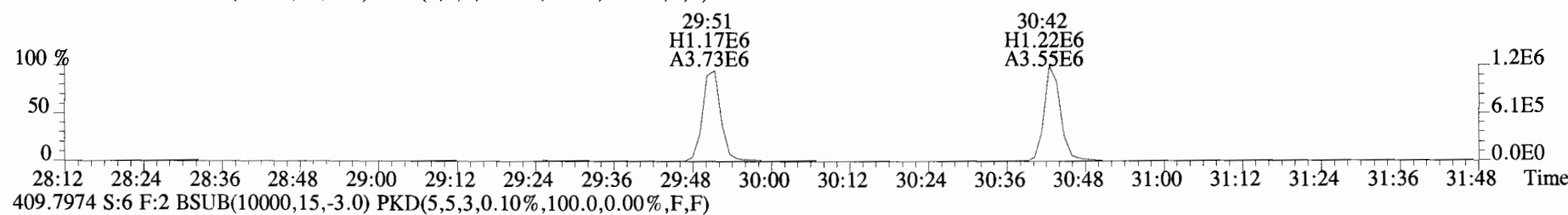
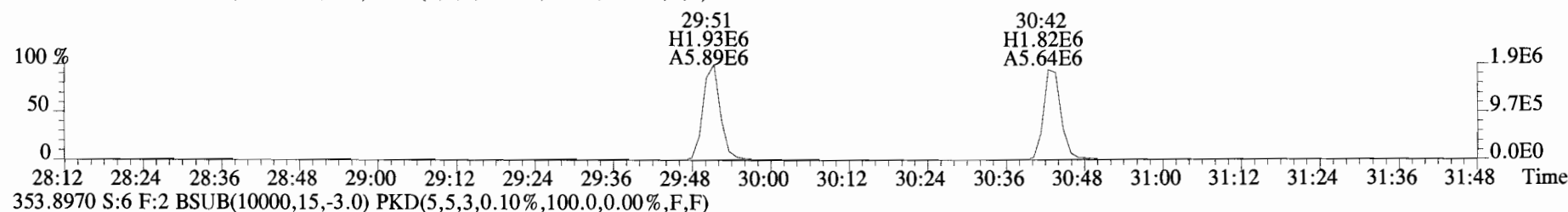
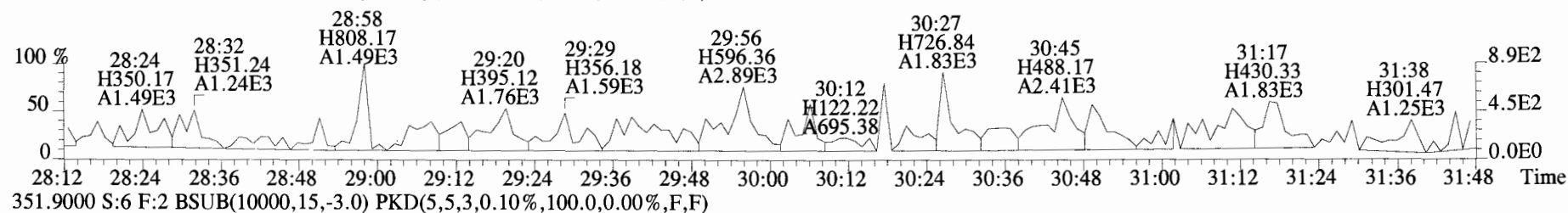
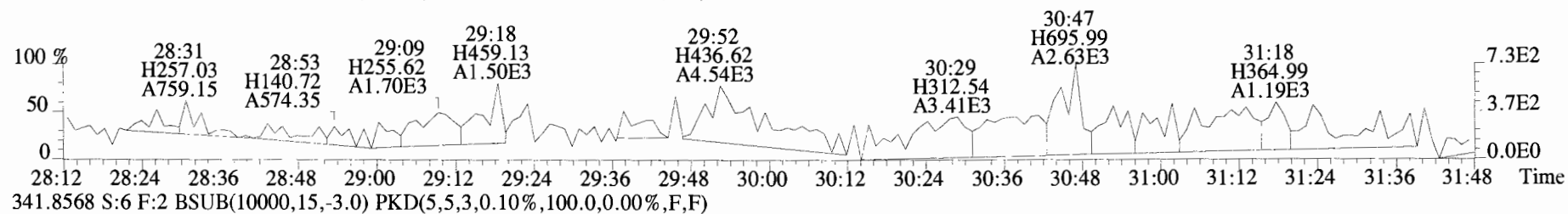
409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



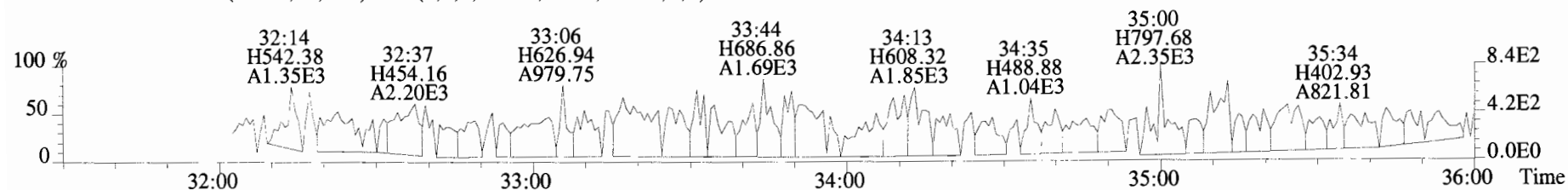
316.9824 S:6



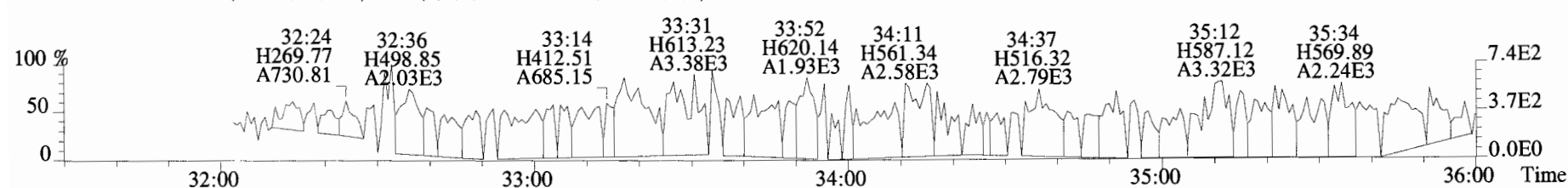
File:190712D1 #1-211 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



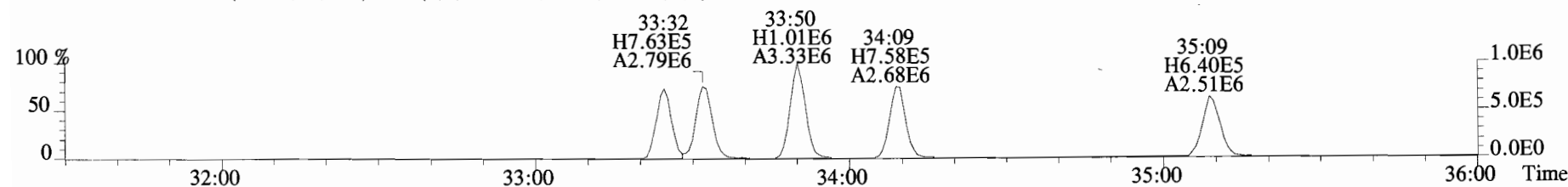
File:190712D1 #1-355 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



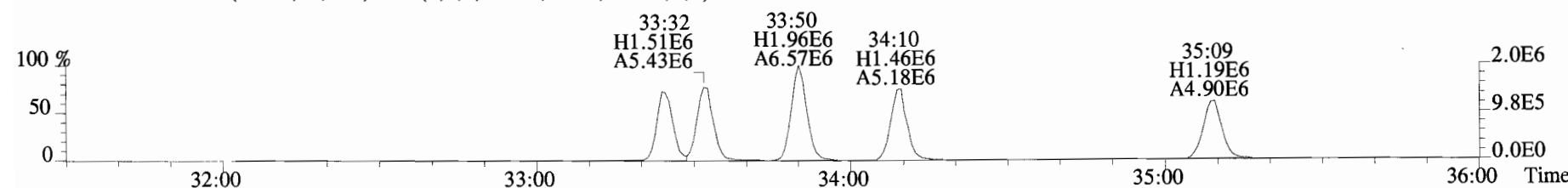
375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



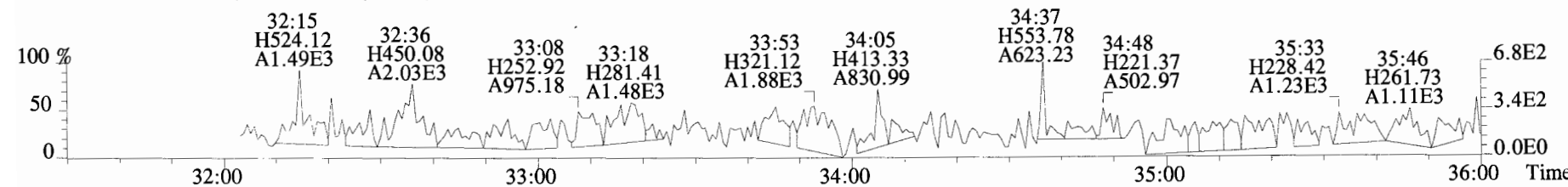
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



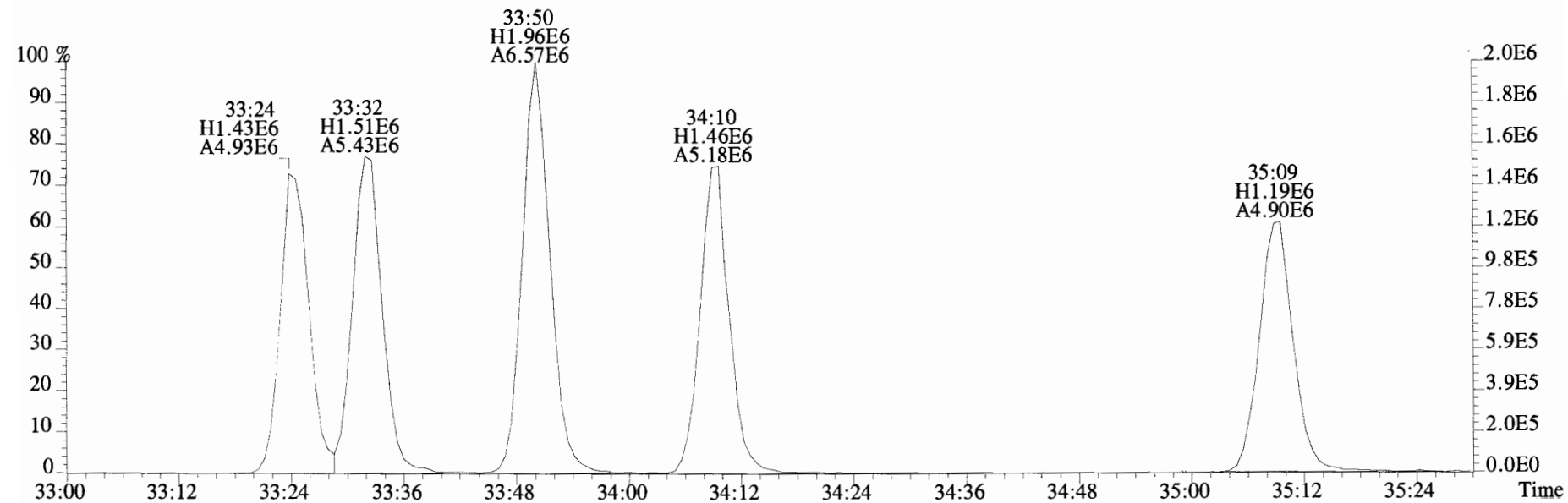
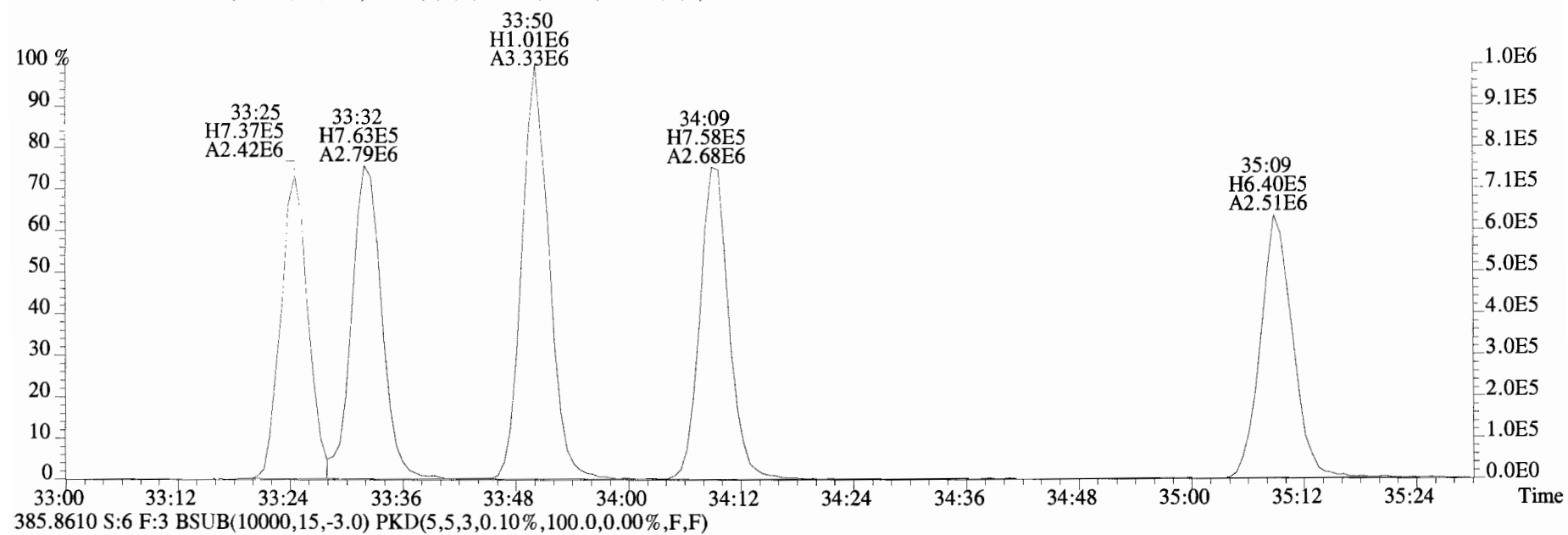
385.8610 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



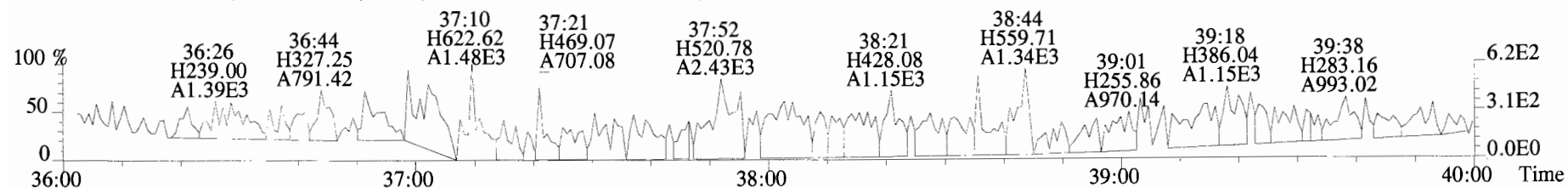
445.7555 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



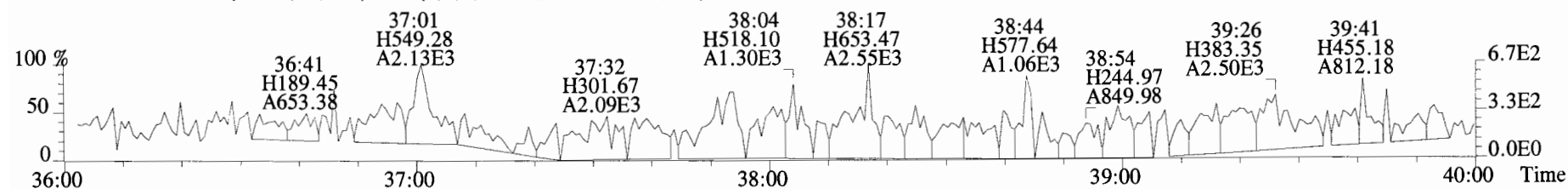
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Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



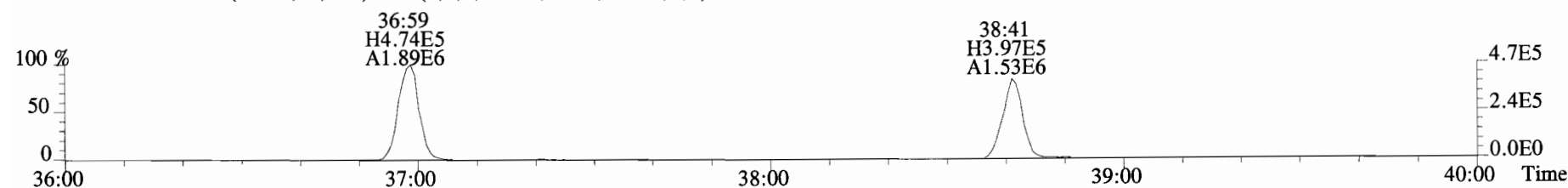
File:190712D1 #1-355 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



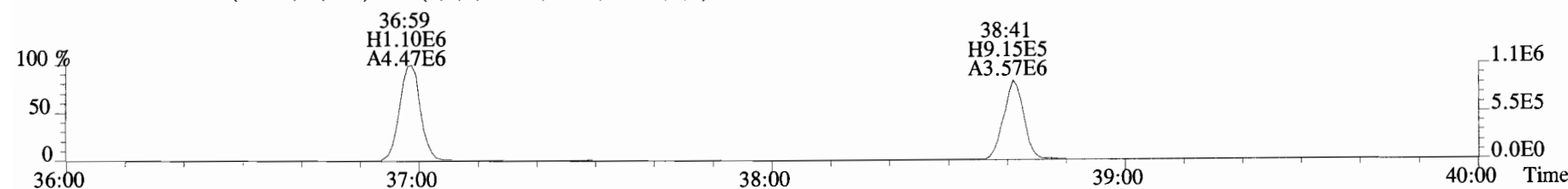
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



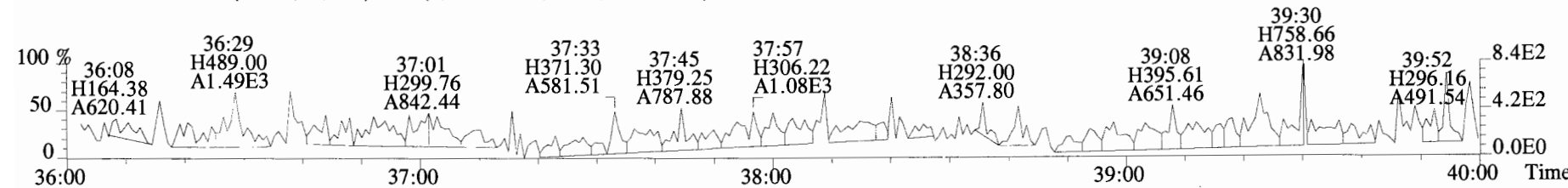
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



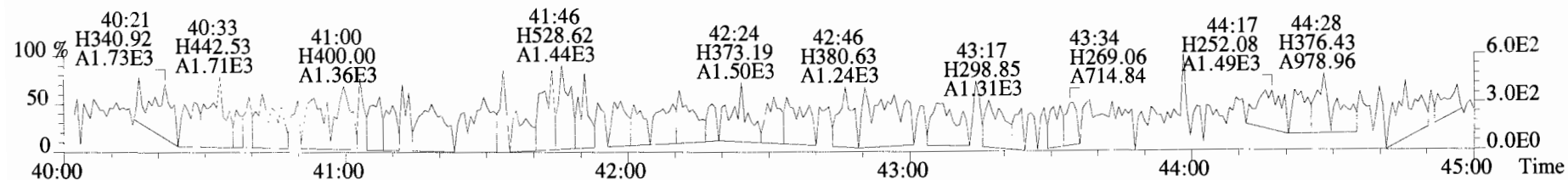
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



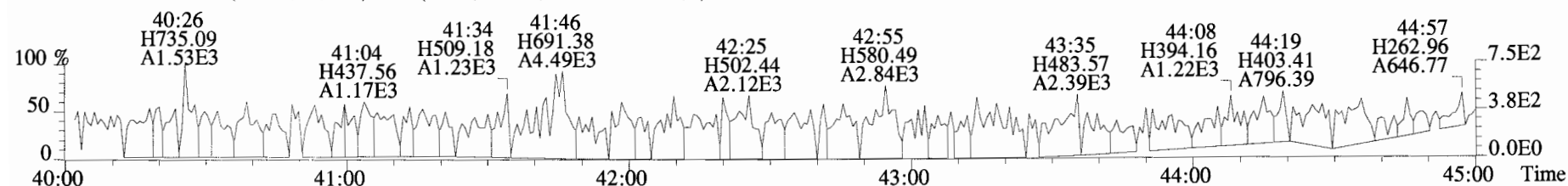
479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



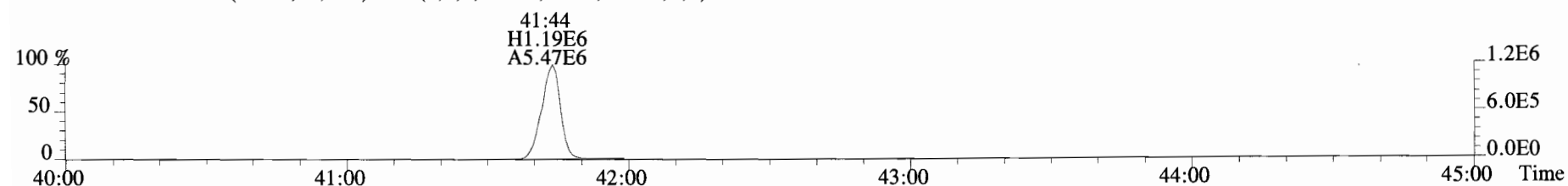
File:190712D1 #1-432 Acq:12-JUL-2019 17:33:39 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BLK1 Method Blank 5 Exp:OCDD_DB5
441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



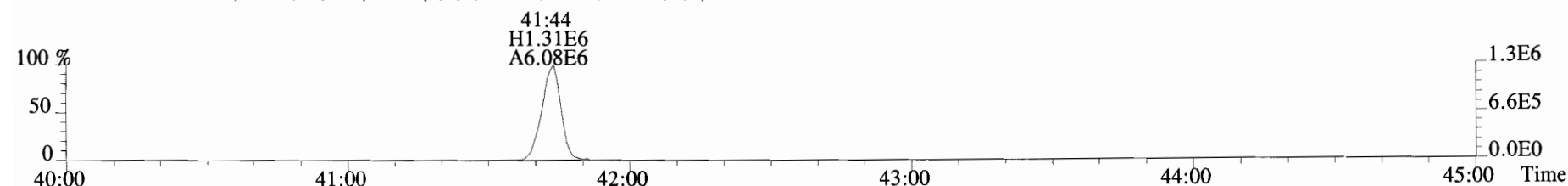
443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



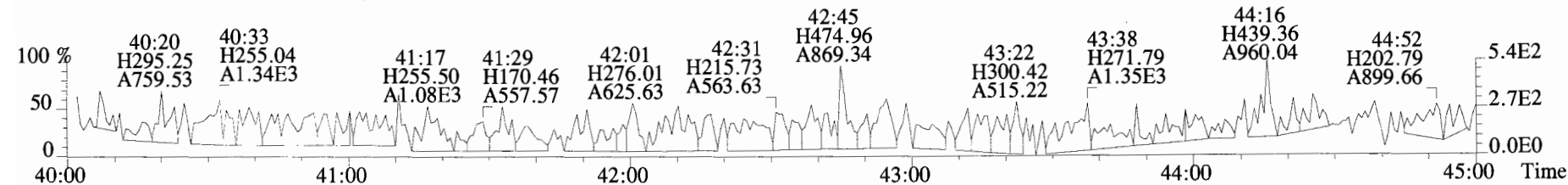
453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



FORM 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B9G0073-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 190712D1-2

Ext. Date: Shift: Day Analysis Date: 12-JUL-19 Time: 14:22:36

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

NATIVE ANALYTES	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
2,3,7,8-TCDD	10	11.1	6.7 - 15.8 7.3 - 14.6 (2)
1,2,3,7,8-PeCDD	50	56.9	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	52.5	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	52.2	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	50.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	48.3	35.0 - 70.0
OCDD	100	96.6	78.0 - 144.0
2,3,7,8-TCDF	10	9.47	7.5 - 15.8 8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	57.2	40.0 - 67.0
2,3,4,7,8-PeCDF	50	55.0	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	52.0	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	53.3	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	55.0	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	54.8	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	55.1	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	51.8	39.0 - 69.0
OCDF	100	103	63.0 - 170.0

(1) Contract-required concentration limits for OPR
as specified in Table 6, Method 1613. 10/94

(2) Contract-required concentration limits for OPR
as specified in Table 6a, Method 1613. 10/94

Analyst: DB

Date: 7/15/19

FORM 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B9G0073-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 190712D1-2

Ext. Date: Shift: Day Analysis Date: 12-JUL-19 Time: 14:22:36

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

LABELED COMPOUNDS	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
13C-2,3,7,8-TCDD	100	86.7	20.0 - 175.0 25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	80.1	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	95.4	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	87.8	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	91.3	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	95.2	26.0 - 166.0
13C-OCDD	200	175	26.0 - 397.0
13C-2,3,7,8-TCDF	100	82.5	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	79.5	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	80.1	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	92.8	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	88.4	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	87.3	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	89.0	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	85.8	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	91.6	20.0 - 186.0
13C-OCDF	200	161	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	34.1	12.4 - 76.4

(1) Contract-required concentration limits for OPR
as specified in Table 6, Method 1613. 10/94

(2) Contract-required concentration limits for OPR
as specified in Table 6a, Method 1613. 10/94

Analyst: DB

Date: 7/15/19

Client ID: OPR
Lab ID: B9G0073-BS1

Filename: 190712D1 S:2 Acq:12-JUL-19 14:22:36
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190712D1-1
EndCAL: NA

Page 2 of 2

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	9.04e+05	0.81 y	0.90	26:42	11.132		* 2.5	*	*
	1,2,3,7,8-PeCDD	3.65e+06	0.63 y	0.87	30:60	56.914		* 2.5	*	*
	1,2,3,4,7,8-HxCDD	3.65e+06	1.21 y	1.05	34:20	52.538		* 2.5	*	*
	1,2,3,6,7,8-HxCDD	3.69e+06	1.26 y	0.93	34:27	52.246		* 2.5	*	*
	1,2,3,7,8,9-HxCDD	3.71e+06	1.20 y	0.96	34:46	50.582		* 2.5	*	*
	1,2,3,4,6,7,8-HpCDD	3.20e+06	1.03 y	0.99	38:08	48.278		* 2.5	*	*
	OCDD	5.35e+06	0.89 y	0.99	41:30	96.566		* 2.5	*	*
	2,3,7,8-TCDF	1.14e+06	0.75 y	0.94	25:59	9.4674		* 2.5	*	*
	1,2,3,7,8-PeCDF	5.90e+06	1.63 y	0.92	29:52	57.176		* 2.5	*	*
	2,3,4,7,8-PeCDF	5.82e+06	1.61 y	0.96	30:44	54.971		* 2.5	*	*
	1,2,3,4,7,8-HxCDF	4.90e+06	1.21 y	1.15	33:26	51.995		* 2.5	*	*
	1,2,3,6,7,8-HxCDF	5.14e+06	1.22 y	1.04	33:33	53.291		* 2.5	*	*
	2,3,4,6,7,8-HxCDF	5.15e+06	1.24 y	1.10	34:10	55.006		* 2.5	*	*
	1,2,3,7,8,9-HxCDF	4.48e+06	1.25 y	1.03	35:10	54.838		* 2.5	*	*
	1,2,3,4,6,7,8-HpCDF	4.18e+06	0.99 y	1.06	36:60	55.065		* 2.5	*	*
	1,2,3,4,7,8,9-HpCDF	3.78e+06	1.00 y	1.23	38:42	51.805		* 2.5	*	*
	OCDF	6.27e+06	0.90 y	0.94	41:45	102.88		* 2.5	*	*

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	11.6	12.3		*	*
Total Penta-Dioxins	56.9	57.2		*	*
Total Hexa-Dioxins	156	157		*	*
Total Hepta-Dioxins	49.0	49.6		*	*
Total Tetra-Furans	9.73	11.3		*	*
Total Penta-Furans	113.38	116.30		*	*
Total Hexa-Furans	215	216		*	*
Total Hepta-Furans	108	108		*	*

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
IS	13C-2,3,7,8-TCDD	9.02e+06	0.79 y	1.11	26:41	86.711				
IS	13C-1,2,3,7,8-PeCDD	7.35e+06	0.63 y	0.98	30:59	80.150				
IS	13C-1,2,3,4,7,8-HxCDD	6.62e+06	1.31 y	0.68	34:19	95.401				
IS	13C-1,2,3,6,7,8-HxCDD	7.59e+06	1.32 y	0.84	34:26	87.816				
IS	13C-1,2,3,7,8,9-HxCDD	7.61e+06	1.28 y	0.81	34:44	91.258				
IS	13C-1,2,3,4,6,7,8-HpCDD	6.71e+06	1.03 y	0.69	38:07	95.161				
IS	13C-OCDD	1.12e+07	0.90 y	0.62	41:29	174.98				
IS	13C-2,3,7,8-TCDF	1.28e+07	0.79 y	1.05	25:58	82.544				
IS	13C-1,2,3,7,8-PeCDF	1.12e+07	1.60 y	0.95	29:51	79.471				
IS	13C-2,3,4,7,8-PeCDF	1.11e+07	1.64 y	0.94	30:43	80.144				
IS	13C-1,2,3,4,7,8-HxCDF	8.17e+06	0.51 y	0.86	33:24	92.820				
IS	13C-1,2,3,6,7,8-HxCDF	9.28e+06	0.51 y	1.02	33:32	88.416				
IS	13C-2,3,4,6,7,8-HxCDF	8.55e+06	0.50 y	0.95	34:09	87.348				
IS	13C-1,2,3,7,8,9-HxCDF	7.93e+06	0.50 y	0.87	35:09	88.986				
IS	13C-1,2,3,4,6,7,8-HpCDF	7.12e+06	0.43 y	0.81	36:59	85.795				
IS	13C-1,2,3,4,7,8,9-HpCDF	5.95e+06	0.42 y	0.63	38:42	91.572				
IS	13C-OCDF	1.30e+07	0.87 y	0.78	41:44	161.38				

Rec Qual

86.7

80.1

95.4

87.8

91.3

95.2

87.5

82.5

79.5

80.1

92.8

88.4

87.3

89.0

85.8

91.6

80.7

C/Up	37C1-2,3,7,8-TCDD	3.90e+06		1.22	26:42	34.067				
RS/RT	13C-1,2,3,4-TCDD	9.41e+06	0.81 y	1.00	26:08	100.00				
RS	13C-1,2,3,4-TCDF	1.47e+07	0.78 y	1.00	24:49	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.03e+07	0.51 y	1.00	33:51	100.00				

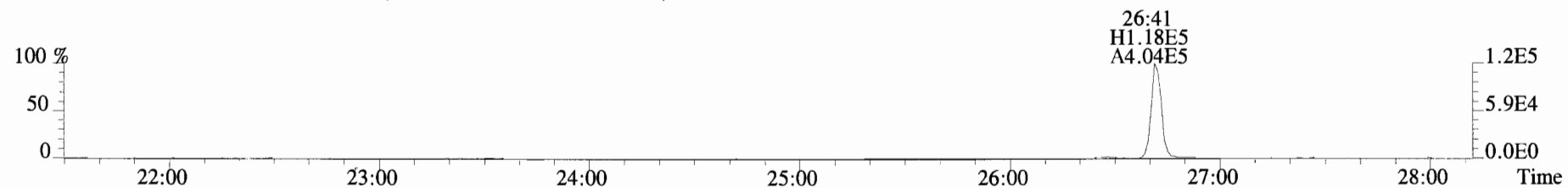
Integrations
by
Analyst: DB

Date: 7/15/19

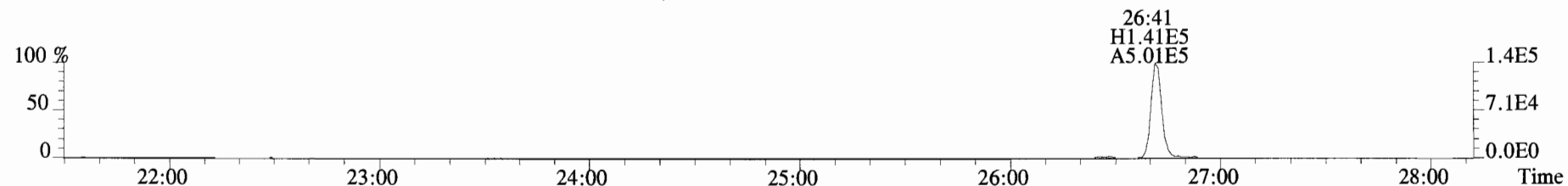
Reviewed
by
Analyst: CT

Date: 08/08/19

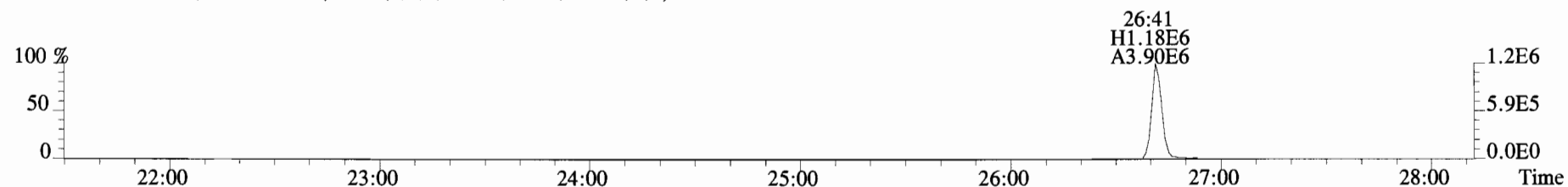
File:190712D1 #1-514 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



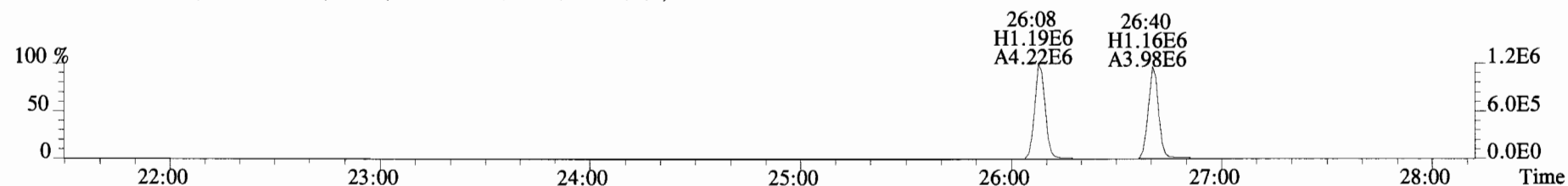
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



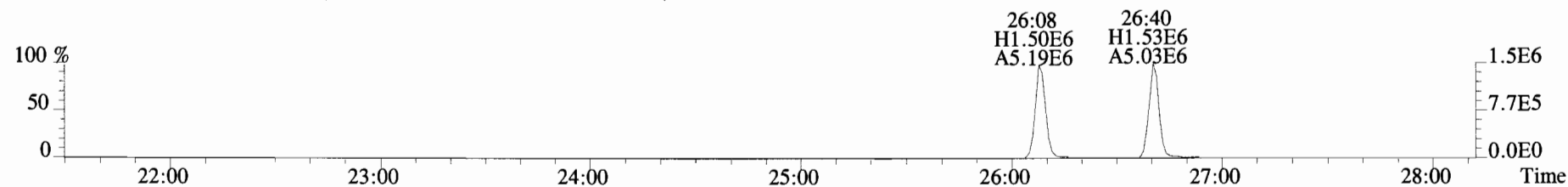
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



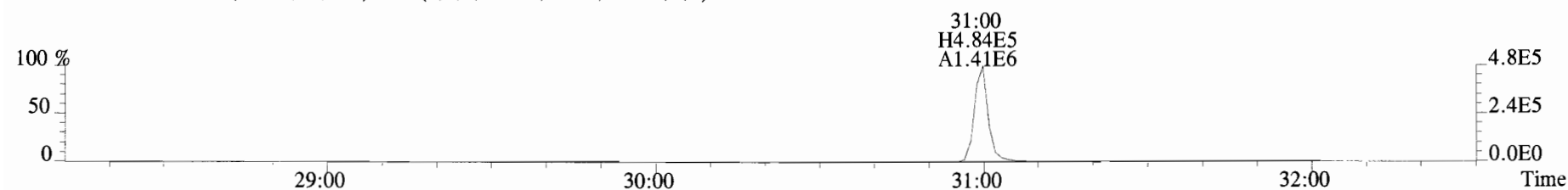
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



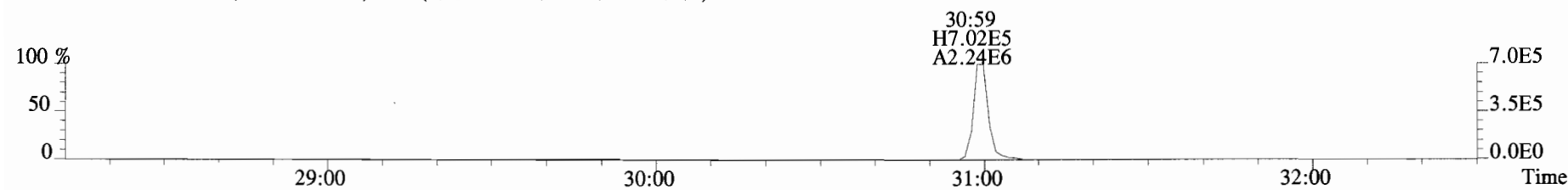
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



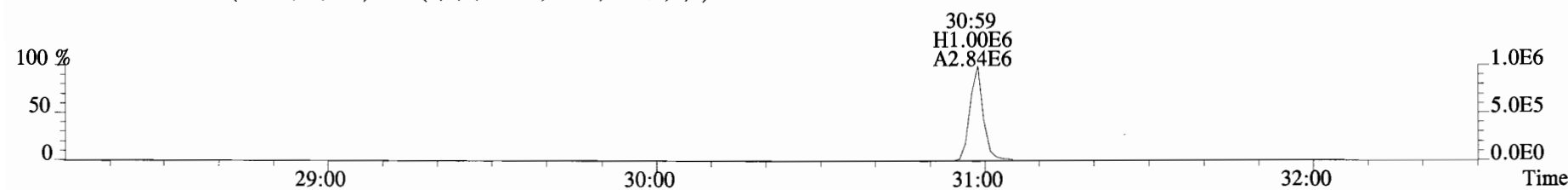
File:190712D1 #1-210 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



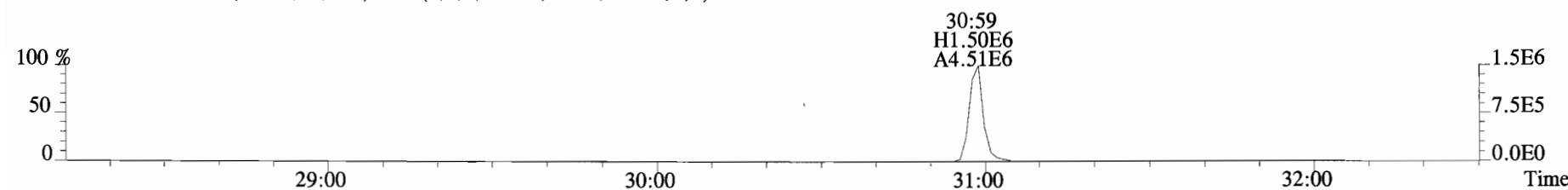
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



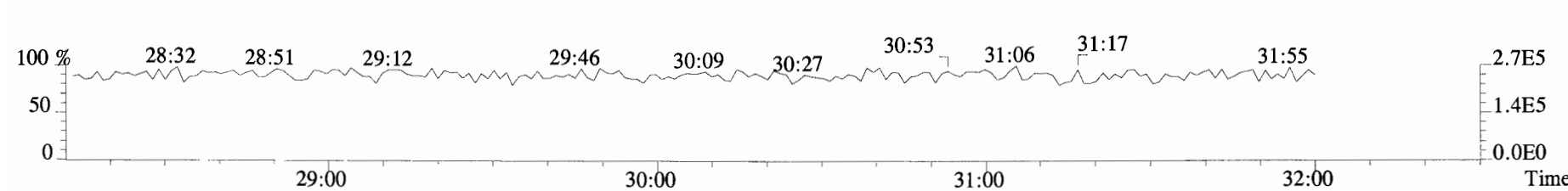
365.8978 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



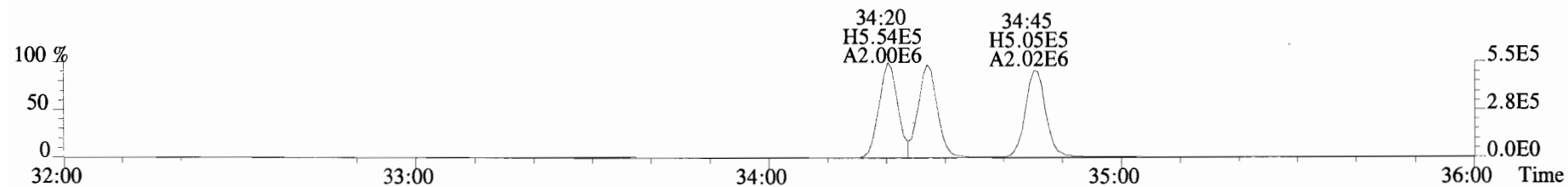
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



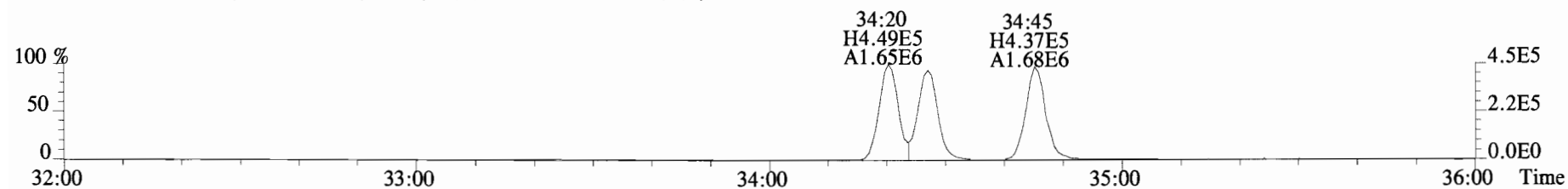
366.9792 S:2 F:2



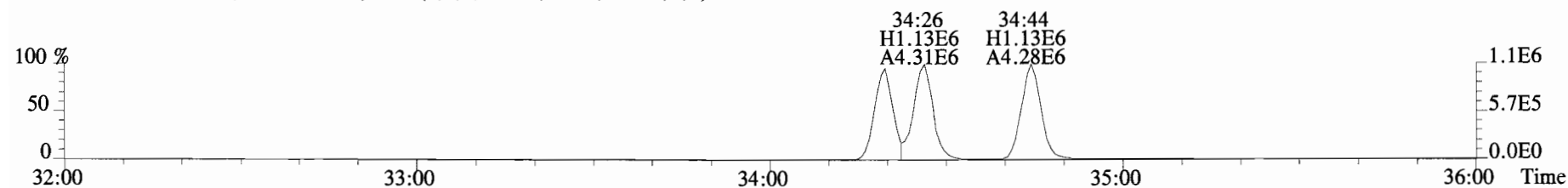
File:190712D1 #1-356 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



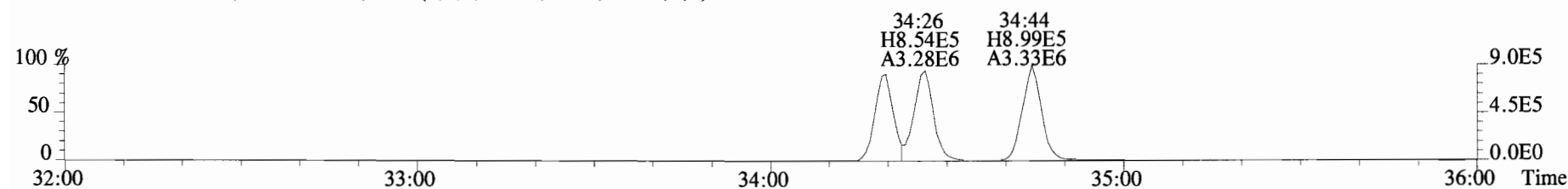
391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



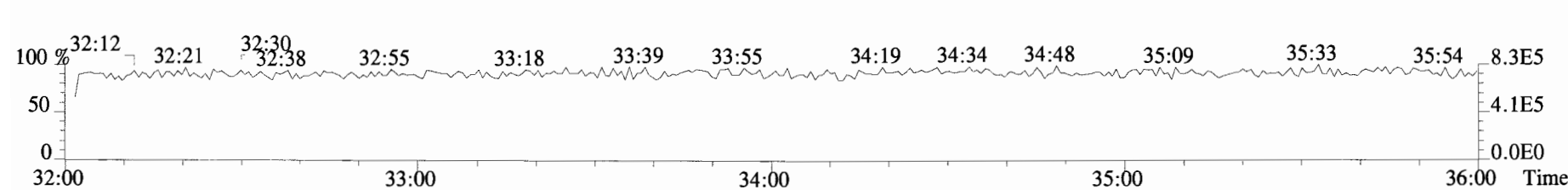
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



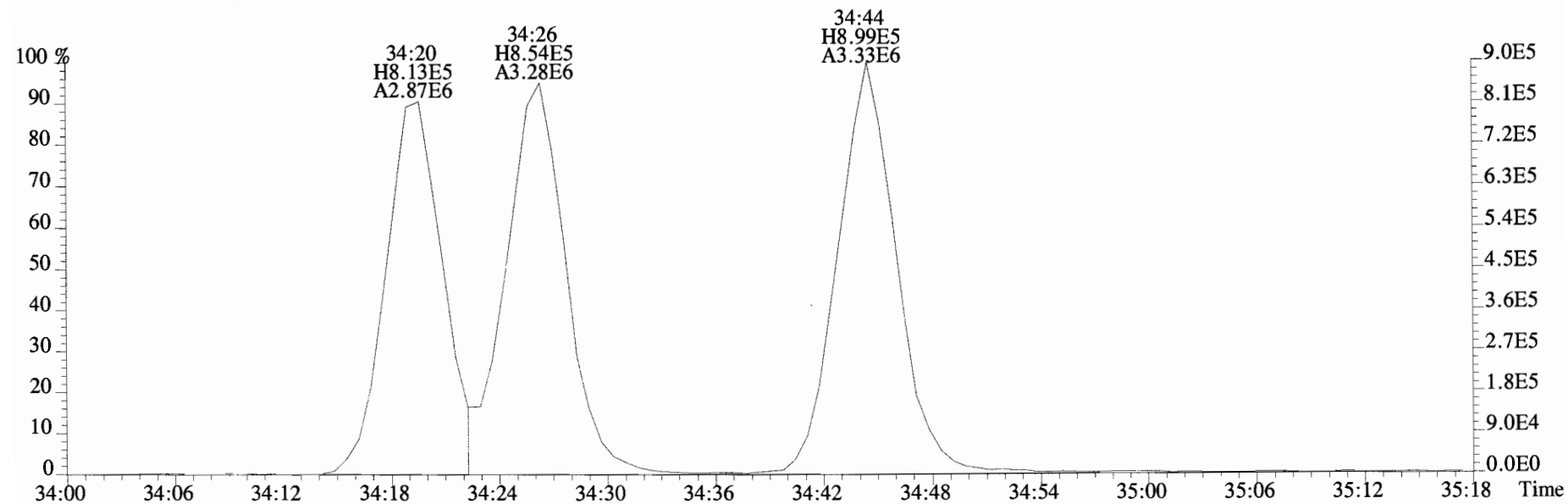
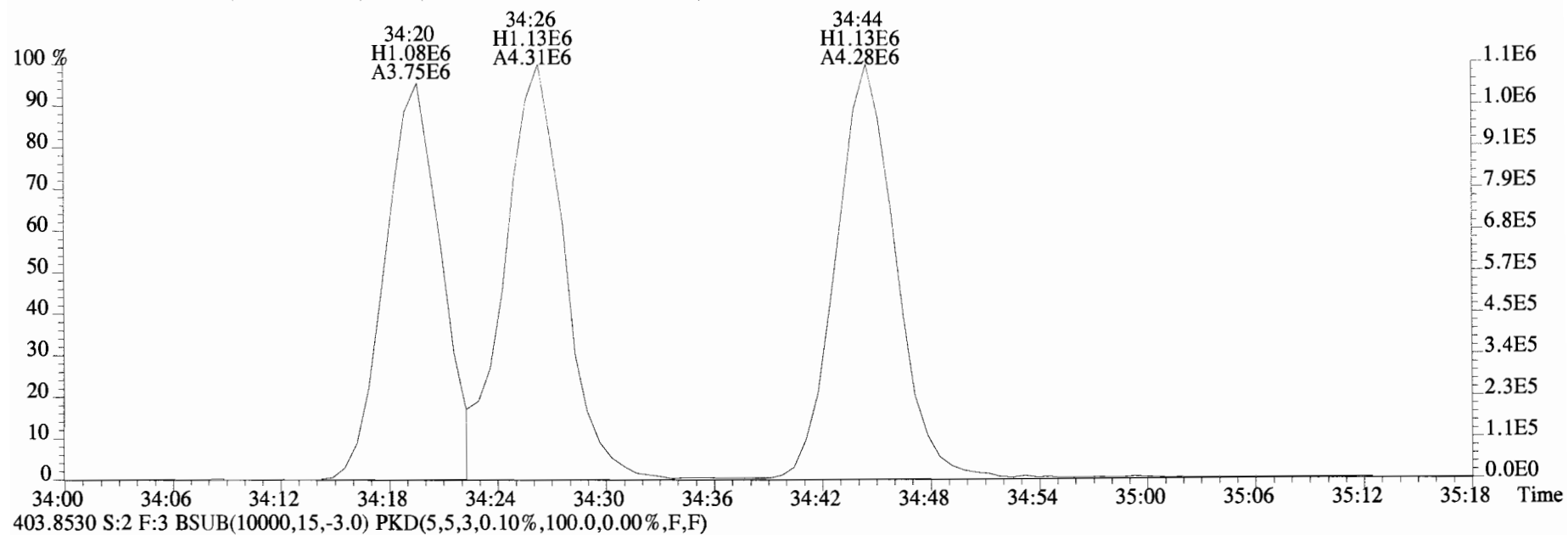
403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



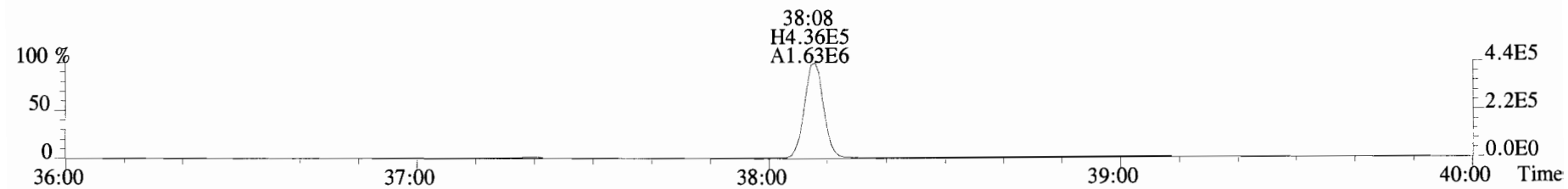
392.9760 S:2 F:3



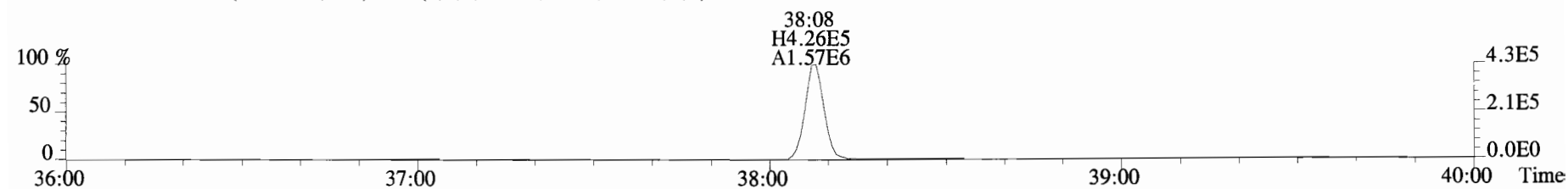
File:190712D1 #1-356 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



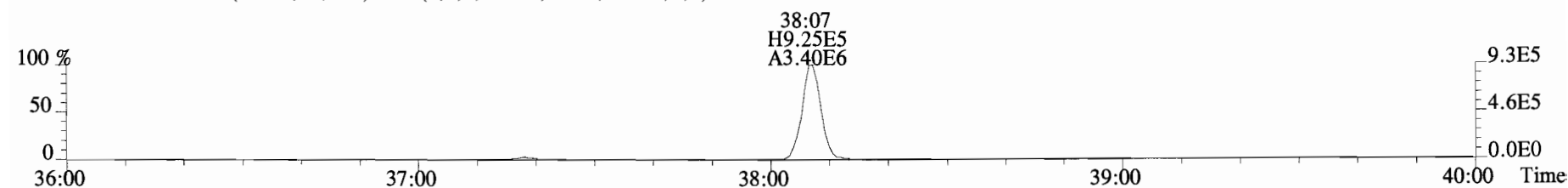
File:190712D1 #1-355 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



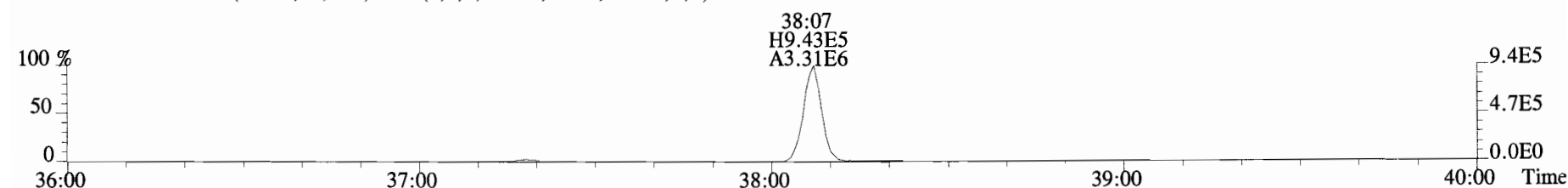
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



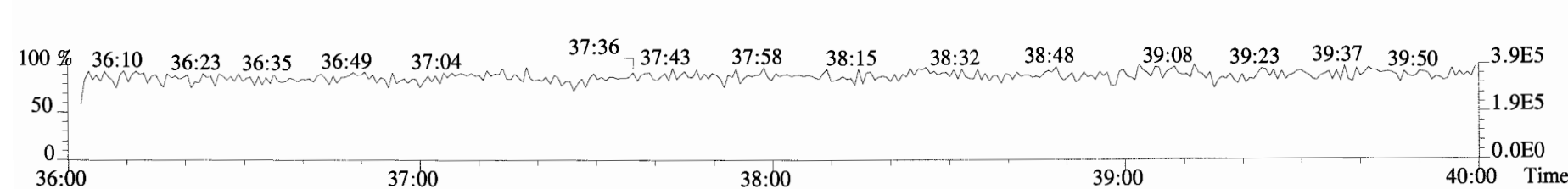
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



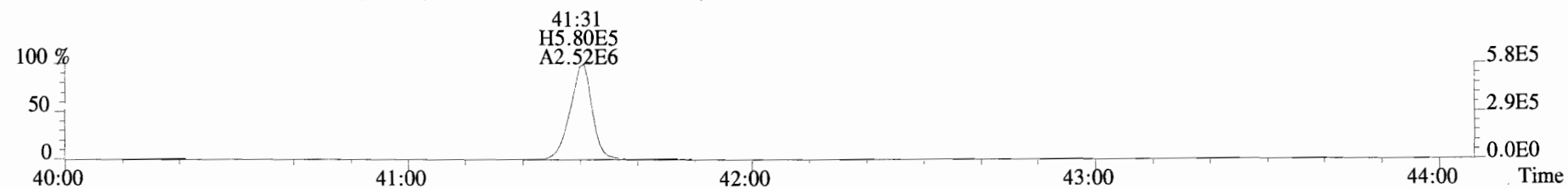
437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



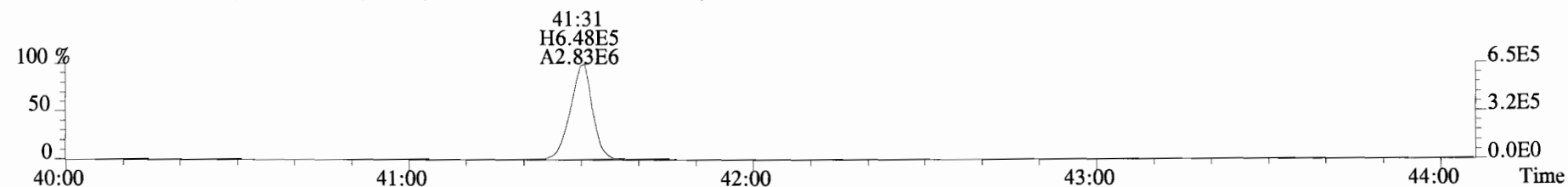
454.9728 S:2 F:4



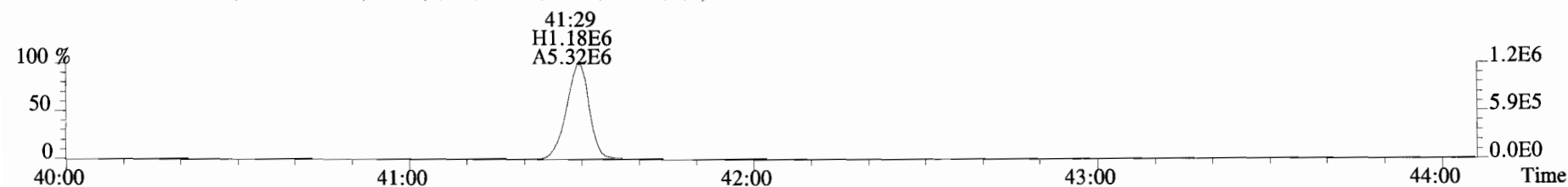
File:190712D1 #1-432 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



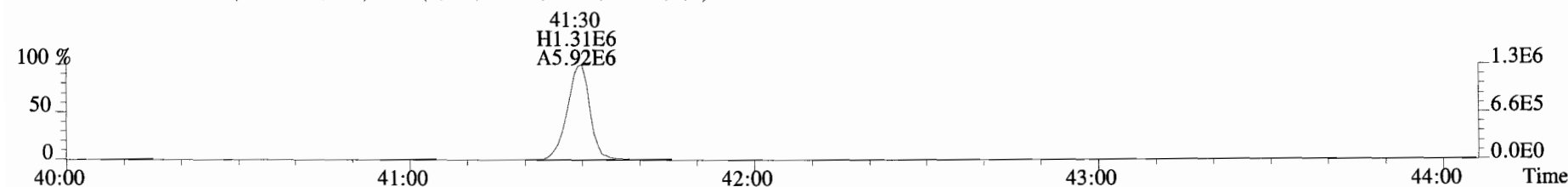
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



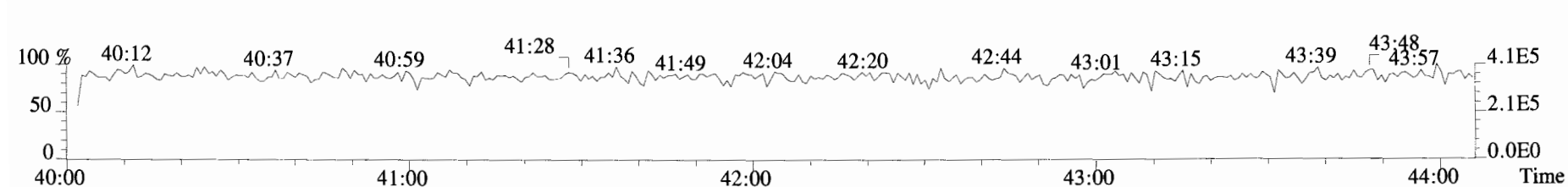
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



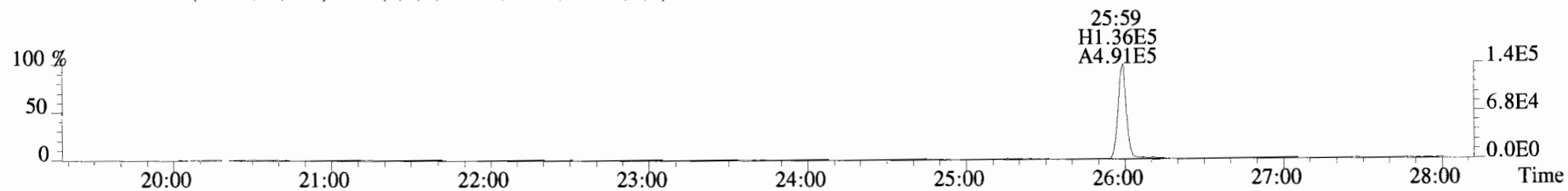
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



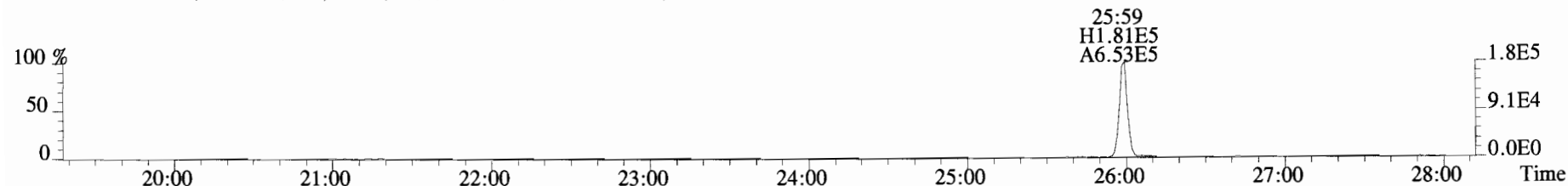
454.9728 S:2 F:5



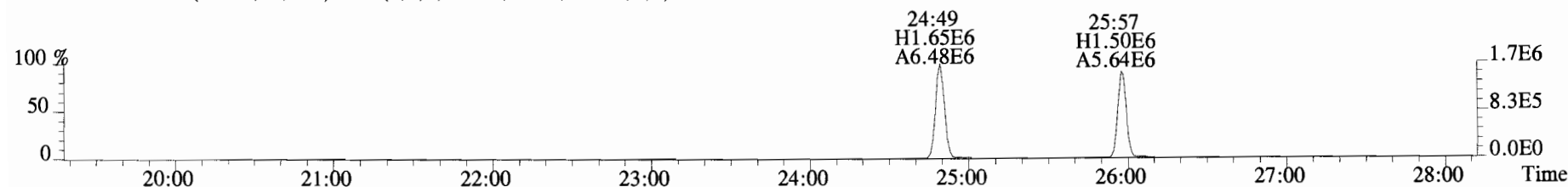
File:190712D1 #1-514 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



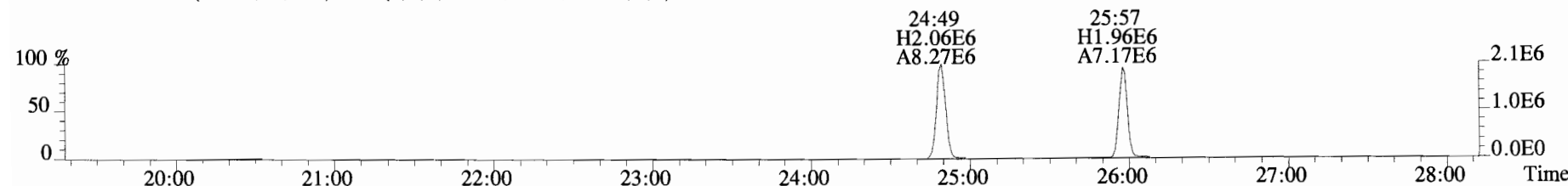
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



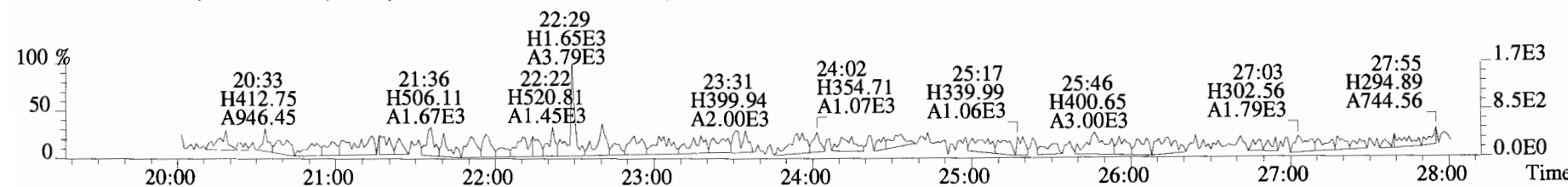
315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



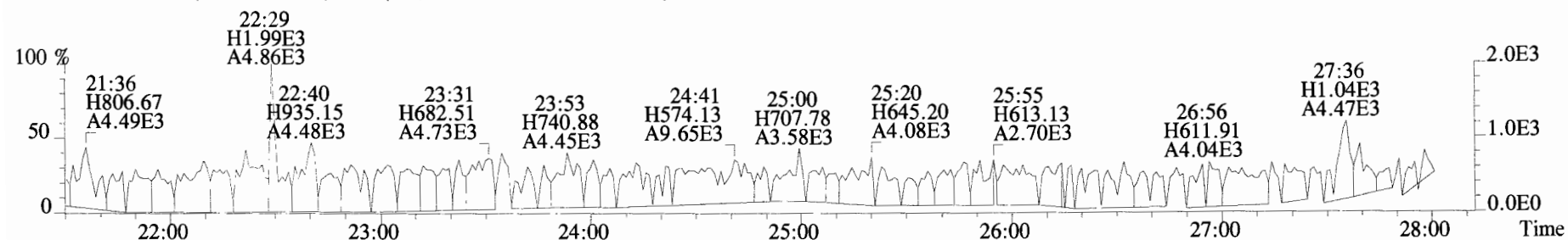
317.9389 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



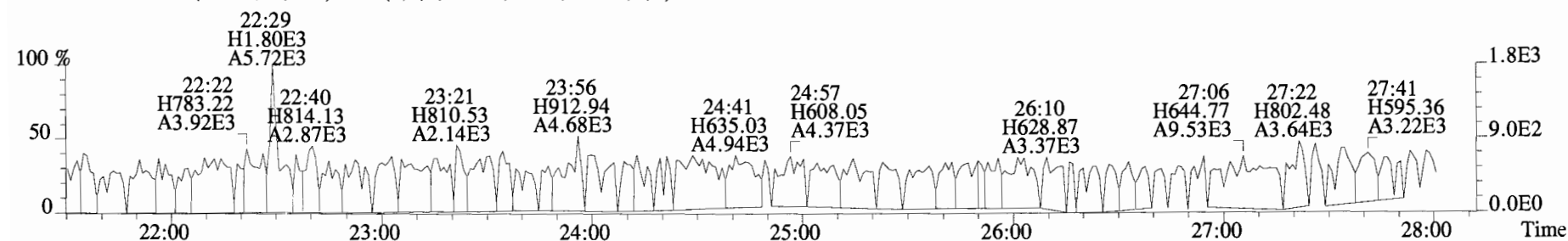
375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



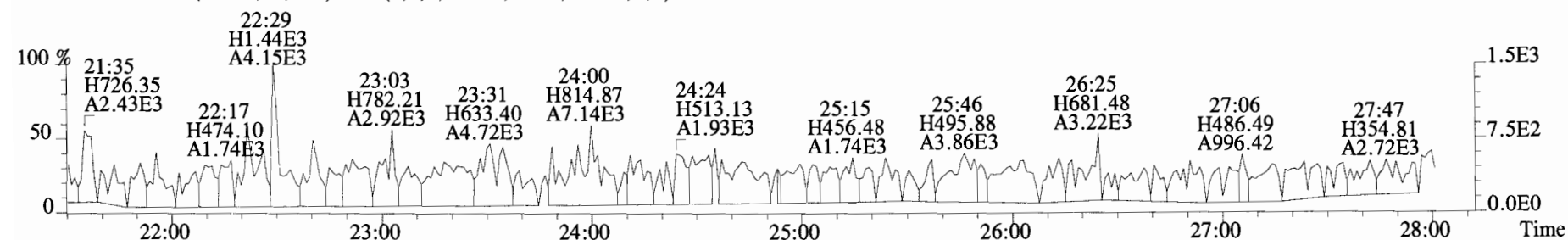
File:190712D1 #1-514 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



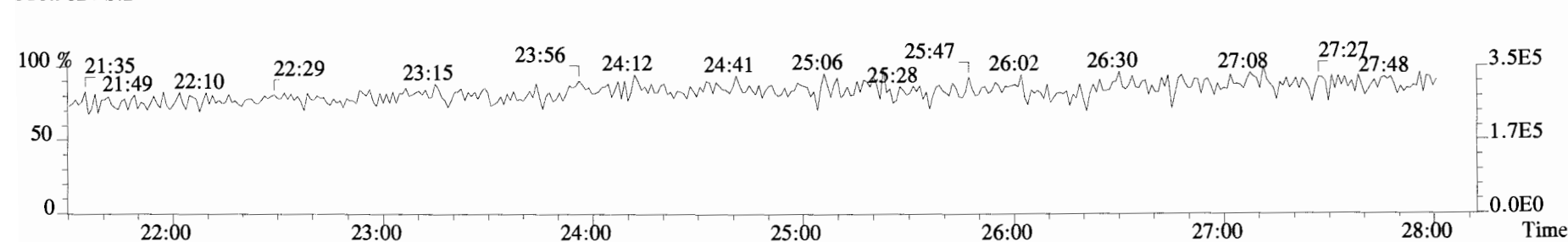
341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



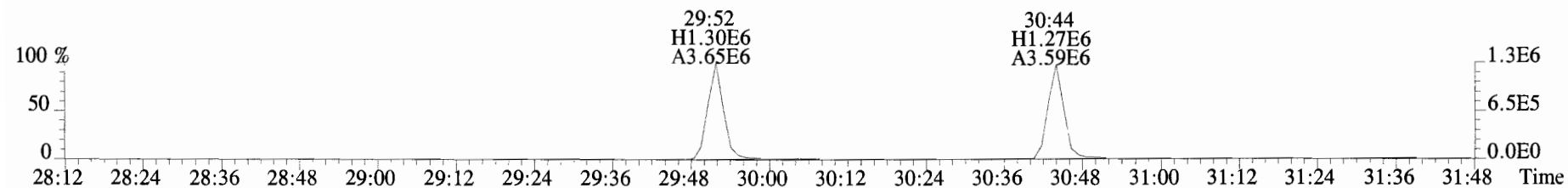
409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



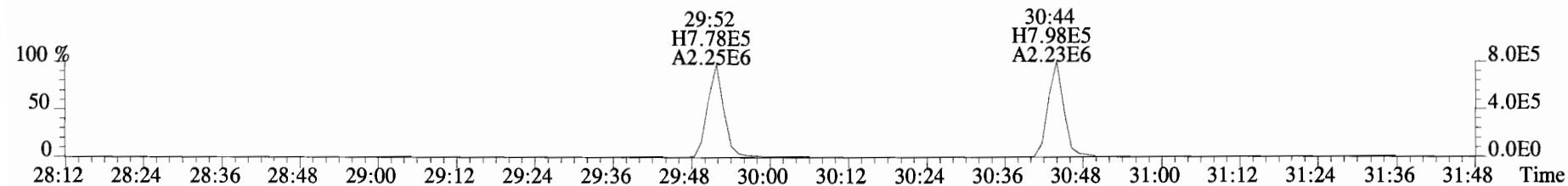
316.9824 S:2



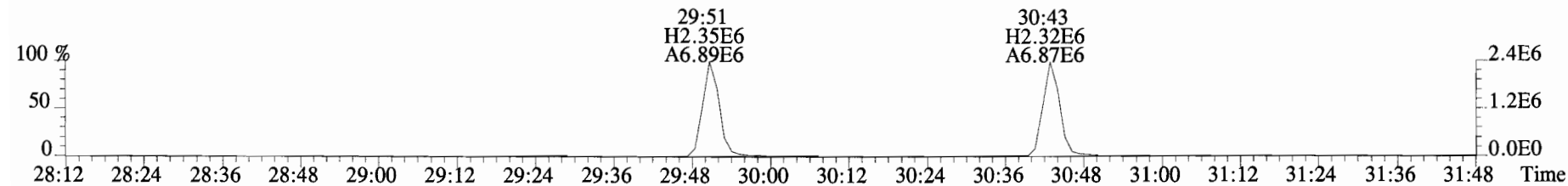
File:190712D1 #1-210 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



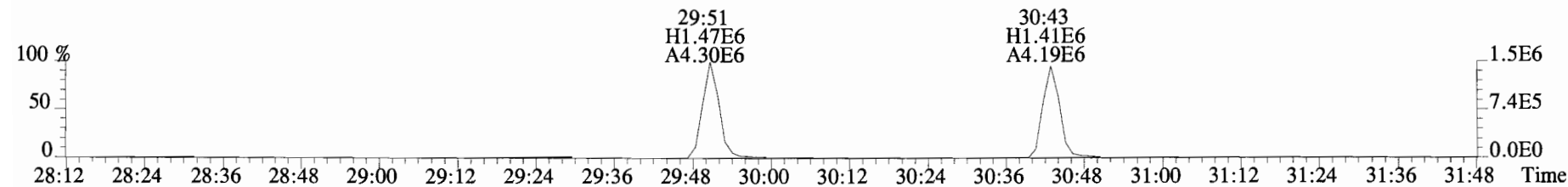
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



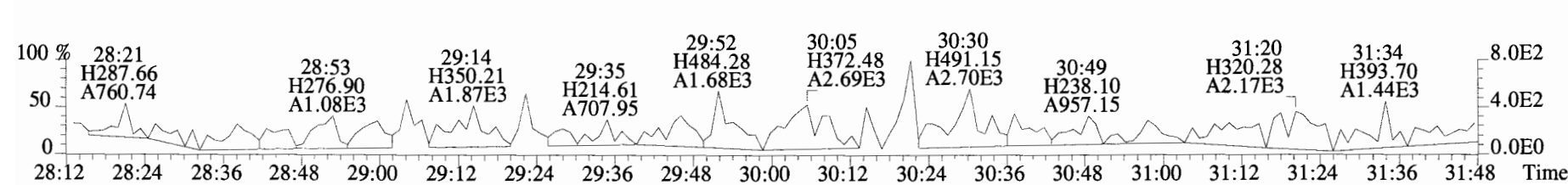
351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



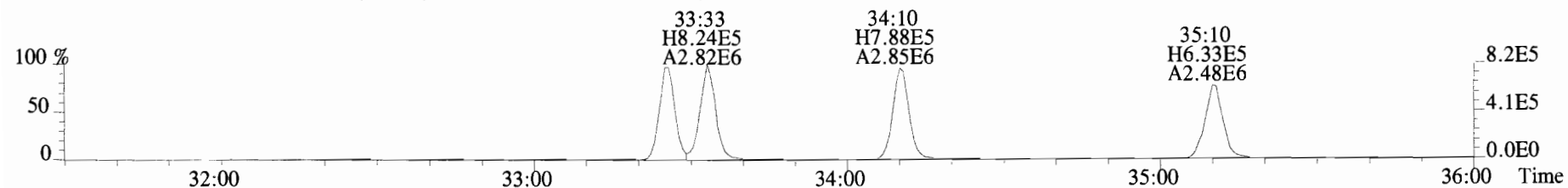
353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



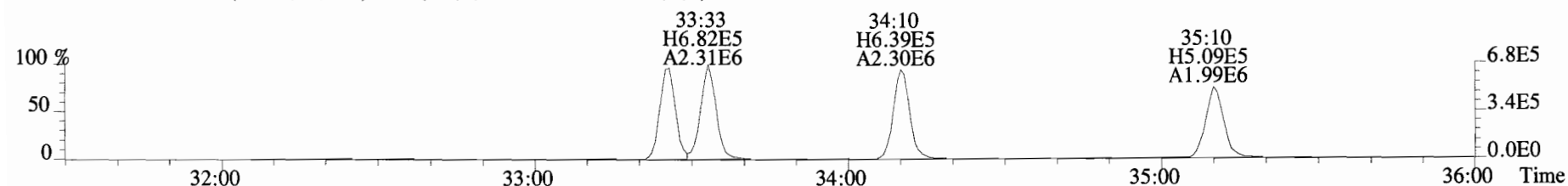
409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



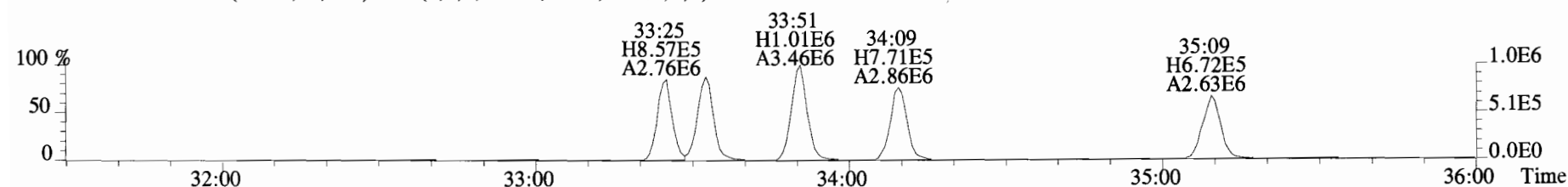
File:190712D1 #1-356 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



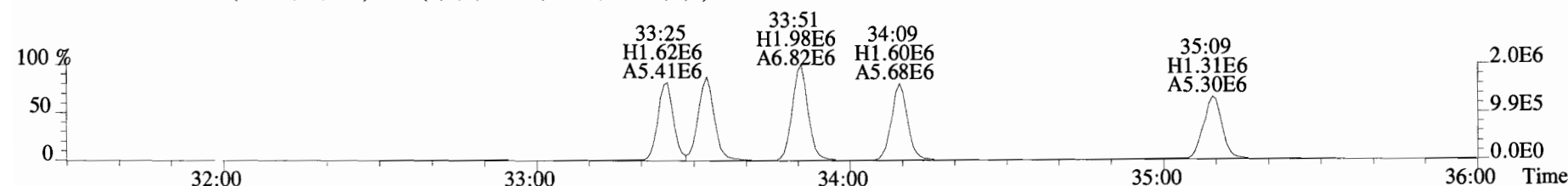
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



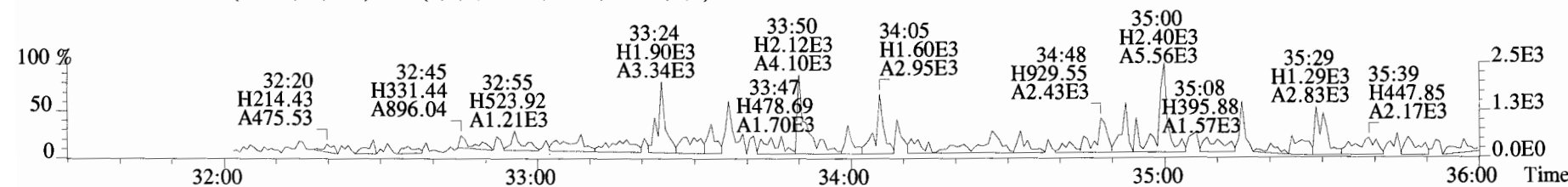
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



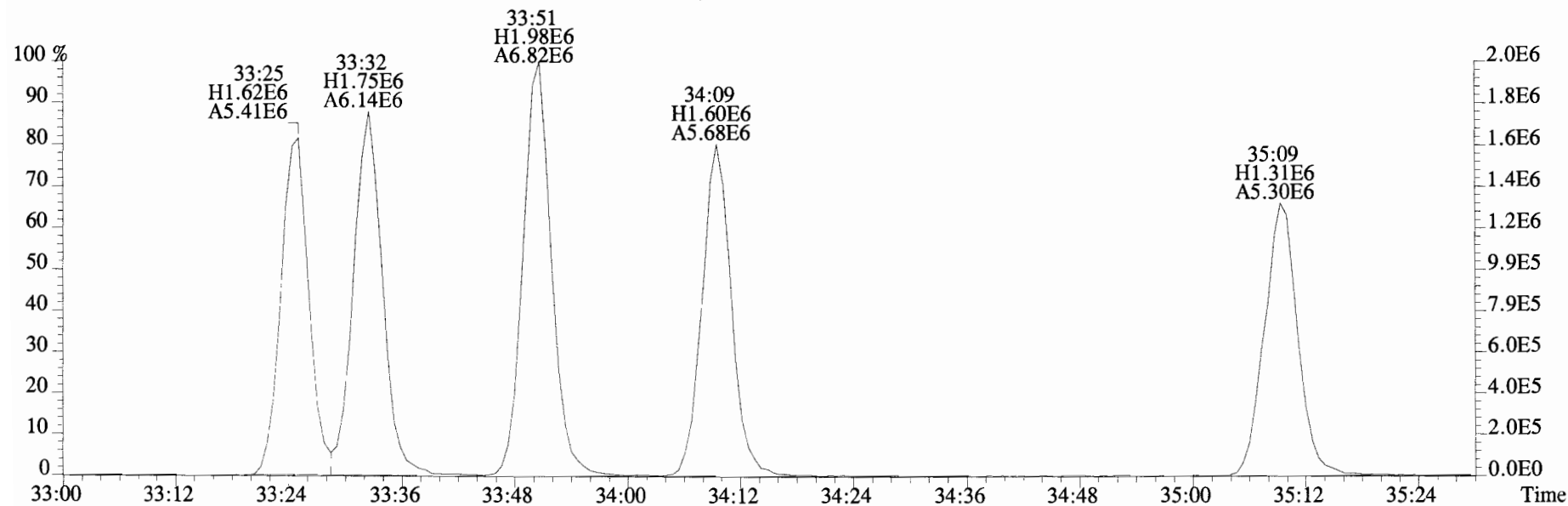
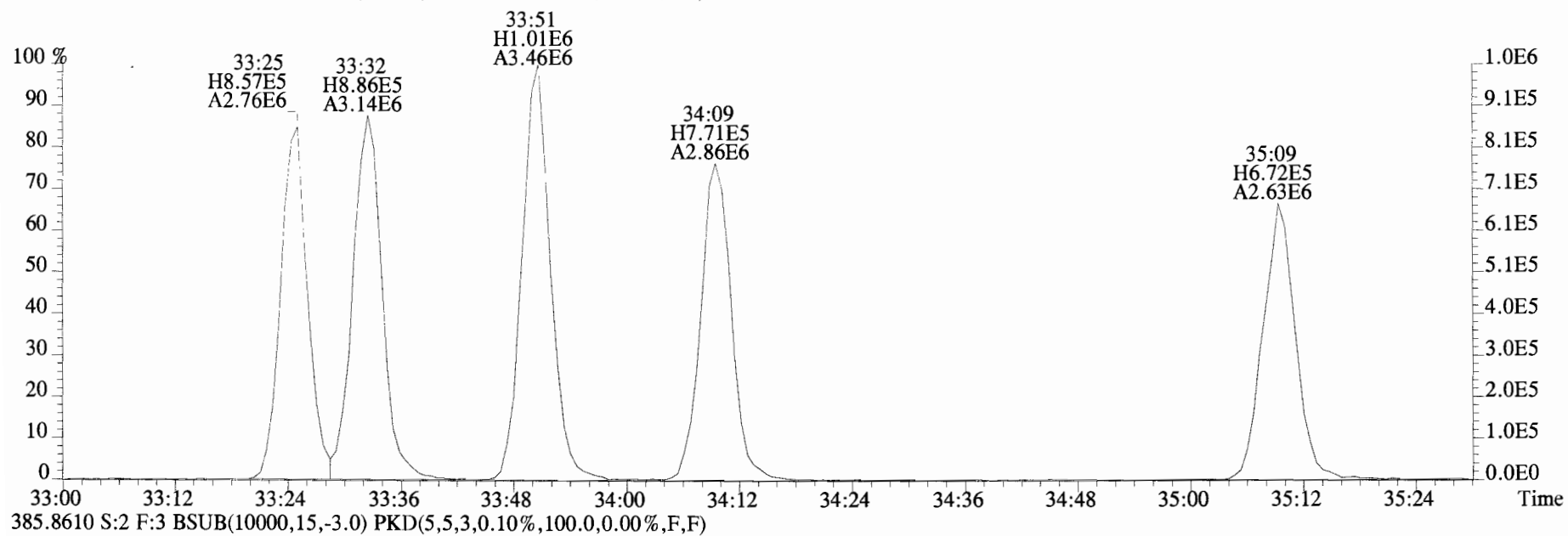
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



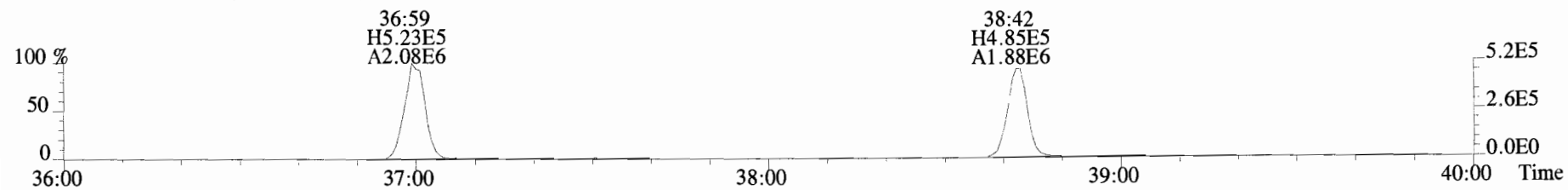
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



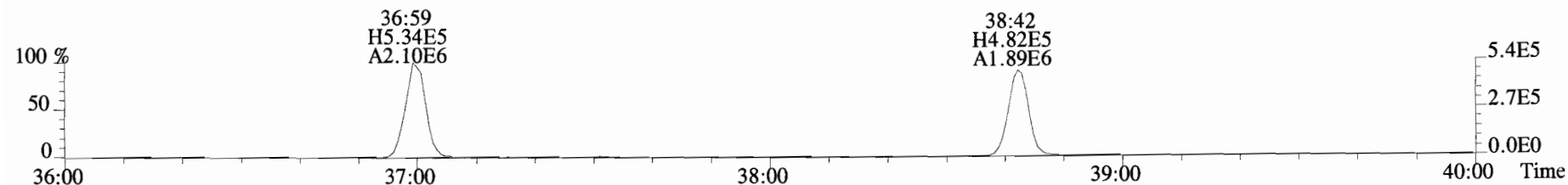
File:190712D1 #1-356 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



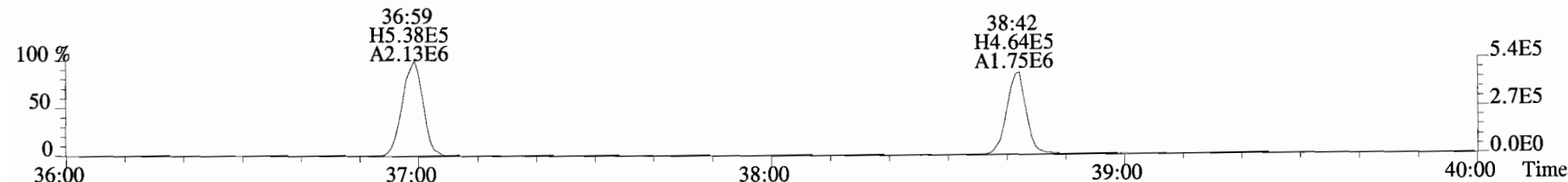
File:190712D1 #1-355 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



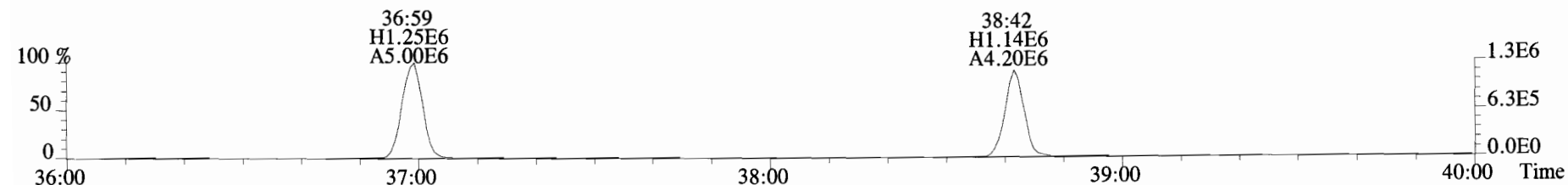
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



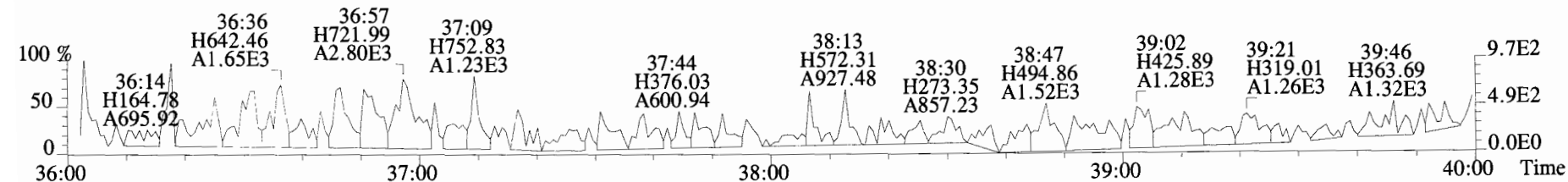
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



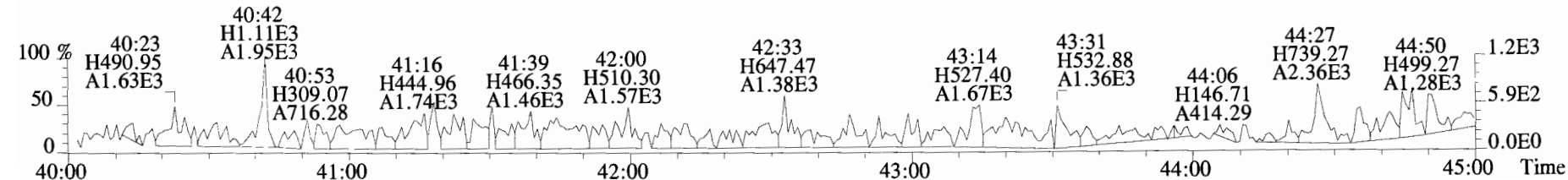
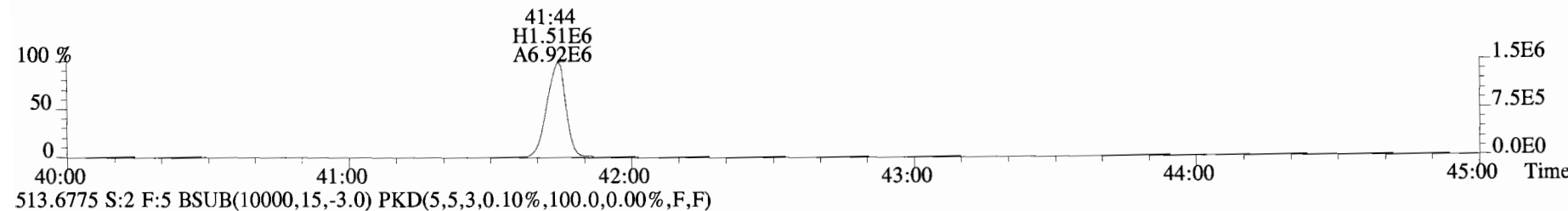
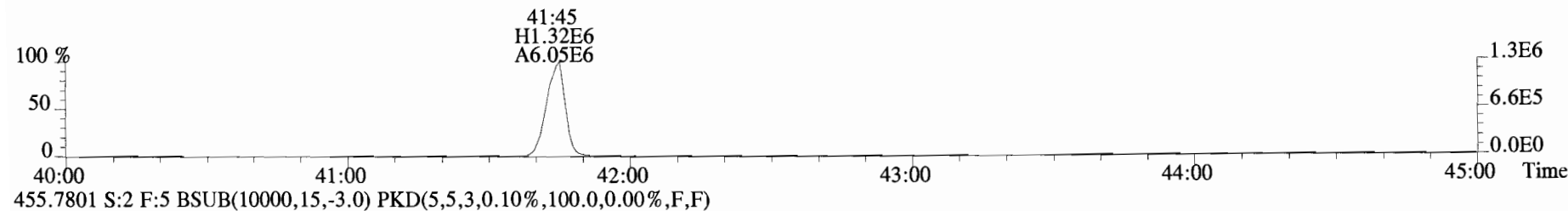
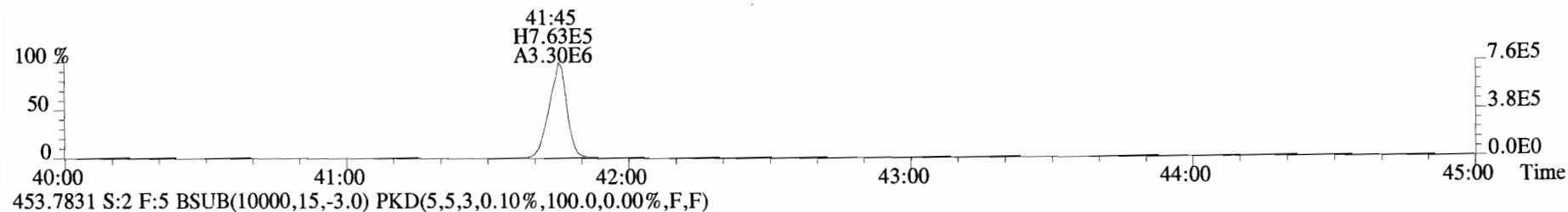
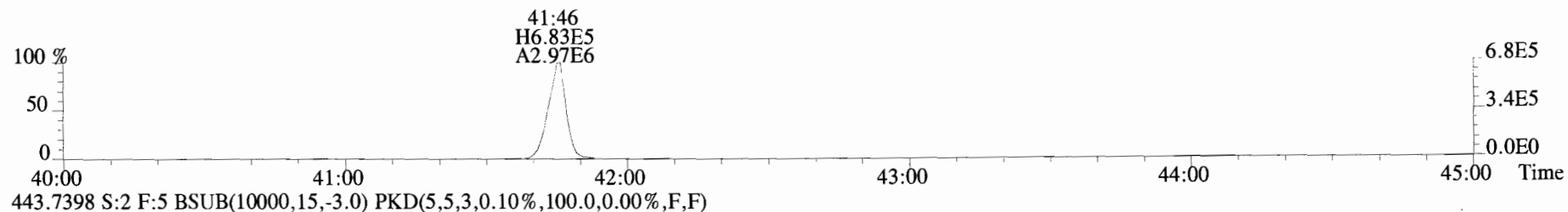
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190712D1 #1-432 Acq:12-JUL-2019 14:22:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:B9G0073-BS1 OPR 5 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	Not F _q	*		301	2.5	0.352
1,2,3,7,8-PeCDD	1.95e+04	0.65 y	0.87	30:30	1.1998		*	2.5	*
1,2,3,4,7,8-HxCDD	3.42e+04	1.12 y	1.05	33:47	1.8508		*	2.5	*
1,2,3,6,7,8-HxCDD	1.56e+05	1.13 y	0.93	33:54	8.0778		*	2.5	*
1,2,3,7,8,9-HxCDD	7.01e+04	1.24 y	0.96	34:12	3.3743		*	2.5	*
1,2,3,4,6,7,8-HpCDD	4.93e+06	1.03 y	0.99	37:39	254.11		*	2.5	*
OCDD	5.43e+07	0.90 y	0.99	40:55	3061.0		*	2.5	*
2,3,7,8-TCDF	2.14e+04	0.85 y	0.94	25:16	1.0458	OK	*	2.5	*
1,2,3,7,8-PeCDF	4.77e+04	1.50 y	0.92	29:19	1.9467		*	2.5	*
2,3,4,7,8-PeCDF	3.29e+04	1.75 y	0.96	30:13	1.3651		*	2.5	*
1,2,3,4,7,8-HxCDF	2.15e+05	1.18 y	1.15	32:54	8.8801		*	2.5	*
1,2,3,6,7,8-HxCDF	6.72e+04	1.29 y	1.04	33:02	2.4803		*	2.5	*
2,3,4,6,7,8-HxCDF	5.91e+04	1.13 y	1.10	33:39	2.1934		*	2.5	*
1,2,3,7,8,9-HxCDF	2.77e+04	1.42 y	1.03	34:36	1.1575		*	2.5	*
1,2,3,4,6,7,8-HpCDF	7.75e+05	1.00 y	1.06	36:24	33.602		*	2.5	*
1,2,3,4,7,8,9-HpCDF	7.18e+04	1.00 y	1.23	38:12	3.2330		*	2.5	*
OCDF	1.76e+06	0.89 y	0.94	41:08	90.813		*	2.5	*

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	3.42	3.42		*	*
Total Penta-Dioxins	3.50	9.63		*	*
Total Hexa-Dioxins	79.4	80.5		*	*
Total Hepta-Dioxins	653	653		*	*
Total Tetra-Furans	4.62	6.88		*	*
Total Penta-Furans	22.846	24.296		*	*
Total Hexa-Furans	61.3	61.3		*	*
Total Hepta-Furans	112	112		*	*

							Rec	Qual
IS	13C-2,3,7,8-TCDD	6.98e+06	0.79 y	1.11	26:01	254.49	63.7	
IS	13C-1,2,3,7,8-PeCDD	7.46e+06	0.63 y	0.98	30:30	308.38	77.2	
IS	13C-1,2,3,4,7,8-HxCDD	7.02e+06	1.29 y	0.68	33:47	371.54	93.0	
IS	13C-1,2,3,6,7,8-HxCDD	8.28e+06	1.26 y	0.84	33:53	351.71	88.0	
IS	13C-1,2,3,7,8,9-HxCDD	8.62e+06	1.28 y	0.81	34:12	379.37	95.0	
IS	13C-1,2,3,4,6,7,8-HpCDD	7.84e+06	1.02 y	0.69	37:38	408.29	102	
IS	13C-OCDD	1.44e+07	0.89 y	0.62	40:54	821.98	103	
IS	13C-2,3,7,8-TCDF	8.68e+06	0.79 y	1.05	25:16	222.14	55.6	
IS	13C-1,2,3,7,8-PeCDF	1.06e+07	1.55 y	0.95	29:19	299.34	74.9	
IS	13C-2,3,4,7,8-PeCDF	1.01e+07	1.67 y	0.94	30:14	289.64	72.5	
IS	13C-1,2,3,4,7,8-HxCDF	8.39e+06	0.52 y	0.86	32:54	349.97	87.6	
IS	13C-1,2,3,6,7,8-HxCDF	1.04e+07	0.51 y	1.02	33:01	364.51	91.2	
IS	13C-2,3,4,6,7,8-HxCDF	9.82e+06	0.50 y	0.95	33:38	368.56	92.3	
IS	13C-1,2,3,7,8,9-HxCDF	9.29e+06	0.52 y	0.87	34:36	382.76	95.8	
IS	13C-1,2,3,4,6,7,8-HpCDF	8.65e+06	0.43 y	0.81	36:24	382.56	95.8	
IS	13C-1,2,3,4,7,8,9-HpCDF	7.25e+06	0.44 y	0.63	38:12	409.62	103	
IS	13C-OCDF	1.65e+07	0.89 y	0.78	41:08	753.16	94.3	

C/Up	37C1-2,3,7,8-TCDD	2.23e+06		1.22	26:02	73.754
RS/RT	13C-1,2,3,4-TCDD	9.91e+06	0.78 y	1.00	25:26	399.48
RS	13C-1,2,3,4-TCDF	1.48e+07	0.80 y	1.00	24:02	399.48
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.12e+07	0.51 y	1.00	33:18	399.48

Integrations
by DB
Analyst: DB

Reviewed
by CT
Analyst: CT

Date: 7/26/19

Date: 08/02/19

Totals class: TCDD EMPC

Entry #: 19

Run: 16

File: 190626D2

S: 11 I: 1 F: 1

Acquired: 27-JUN-19 12:37:50

Processed: 27-JUN-19 17:02:08

Total Concentration: 3.4210

Unnamed Concentration: 3.421

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
25:47	2.230e+04	3.152e+04	0.71 y	5.382e+04	3.4210

Totals class: PeCDD EMPC

Entry #: 21

Run: 16

File: 190626D2

S: 11 I: 1 F: 2

Acquired: 27-JUN-19 12:37:50

Processed: 27-JUN-19 17:02:08

Total Concentration: 9.6262

Unnamed Concentration: 8.426

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:27	1.696e+04	3.332e+04	0.51 n	4.388e+04	2.6941
28:53	5.896e+03	1.304e+04	0.45 n	1.526e+04	0.93663
29:21	1.058e+04	1.428e+04	0.74 n	2.327e+04	1.4287
29:30	5.802e+03	1.077e+04	0.54 y	1.657e+04	1.0175
29:35	3.363e+03	7.912e+03	0.43 n	8.700e+03	0.53416
29:48	8.717e+03	1.223e+04	0.71 y	2.095e+04	1.2863
30:05	3.330e+03	6.542e+03	0.51 n	8.616e+03	0.52899
30:30	7.699e+03	1.184e+04	0.65 y	1.954e+04	1.1998
					1,2,3,7,8-PeCDD

Totals class: HxCDD EMPC

Entry #: 23

Run: 16 File: 190626D2 S: 11 I: 1 F: 3

Acquired: 27-JUN-19 12:37:50 Processed: 27-JUN-19 17:02:08

Total Concentration: 80.544

Unnamed Concentration: 67.241

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:15	3.621e+05	2.952e+05	1.23 y	6.573e+05	33.738
32:49	3.847e+04	2.783e+04	1.38 y	6.630e+04	3.4033
33:05	2.805e+05	2.350e+05	1.19 y	5.155e+05	26.461
33:12	2.750e+04	2.082e+04	1.32 y	4.832e+04	2.4802
33:47	1.801e+04	1.615e+04	1.12 y	3.416e+04	1.8508 1,2,3,4,7,8-HxCDD
33:54	8.268e+04	7.305e+04	1.13 y	1.557e+05	8.0778 1,2,3,6,7,8-HxCDD
34:06	1.250e+04	1.331e+04	0.94 n	2.258e+04	1.1589
34:12	3.875e+04	3.131e+04	1.24 y	7.006e+04	3.3743 1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC

Entry #: 25

Run: 16

File: 190626D2

S: 11 I: 1 F: 4

Acquired: 27-JUN-19 12:37:50

Processed: 27-JUN-19 17:02:08

Total Concentration: 653.48

Unnamed Concentration: 399.366

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
36:47	3.939e+06	3.806e+06	1.03	y	7.745e+06	399.37
37:39	2.500e+06	2.428e+06	1.03	y	4.928e+06	254.11

1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC

Entry #: 27

Run: 16

File: 190626D2

S: 11 I: 1 F: 1

Acquired: 27-JUN-19 12:37:50

Processed: 27-JUN-19 17:02:08

Total Concentration: 6.8842

Unnamed Concentration: 5.838

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
21:09	1.589e+03	3.512e+03	0.45 n	3.653e+03	0.17834
21:46	1.106e+04	1.600e+04	0.69 y	2.706e+04	1.3211
22:39	1.339e+04	1.095e+04	1.22 n	1.938e+04	0.94631
23:03	9.211e+03	8.631e+03	1.07 n	1.528e+04	0.74578
24:00	1.040e+04	1.186e+04	0.88 y	2.226e+04	1.0867
24:29	1.051e+04	1.334e+04	0.79 y	2.385e+04	1.1643
25:16	9.871e+03	1.155e+04	0.85 y	2.142e+04	1.0458
25:35	3.527e+03	5.887e+03	0.60 n	8.107e+03	0.39580

2,3,7,8-TCDF

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 16 File: 190626D2 S: 11 I: 1 F: 1
Acquired: 27-JUN-19 12:37:50 Processed: 27-JUN-19 17:02:08

Total Concentration: 8.9393 Unnamed Concentration: 8.939

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
26:58	1.269e+05	9.052e+04	1.40 y	2.174e+05	8.9393

Totals class: PeCDF EMPC

Entry #: 31

Run: 16

File: 190626D2

S: 11 I: 1 F: 2

Acquired: 27-JUN-19 12:37:50

Processed: 27-JUN-19 17:02:08

Total Concentration: 15.357

Unnamed Concentration: 12.045

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
28:17	1.332e+04	6.844e+03	1.95	n	1.745e+04	0.71771
28:25	8.848e+04	5.976e+04	1.48	y	1.482e+05	6.0957
28:58	2.705e+04	1.735e+04	1.56	y	4.440e+04	1.8258
29:09	7.661e+03	3.337e+03	2.30	n	8.509e+03	0.34989
29:19	2.864e+04	1.905e+04	1.50	y	4.769e+04	1.9467
29:34	1.825e+04	1.142e+04	1.60	y	2.967e+04	1.2203
30:07	6.712e+03	3.644e+03	1.84	n	9.293e+03	0.38214
30:13	2.098e+04	1.196e+04	1.75	y	3.293e+04	1.3651
30:16	2.170e+04	1.364e+04	1.59	y	3.534e+04	1.4534

Totals class: HxCDF EMPC

Entry #: 33

Run: 16

File: 190626D2

S: 11 I: 1 F: 3

Acquired: 27-JUN-19 12:37:50

Processed: 27-JUN-19 17:02:08

Total Concentration: 61.344

Unnamed Concentration: 46.633

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
31:44	7.937e+04	5.881e+04	1.35 y	1.382e+05	5.4023	
31:53	2.186e+05	1.714e+05	1.28 y	3.900e+05	15.246	
32:14	4.971e+03	3.712e+03	1.34 y	8.684e+03	0.33951	
32:26	3.479e+05	2.838e+05	1.23 y	6.317e+05	24.697	
32:47	7.634e+03	5.813e+03	1.31 y	1.345e+04	0.52574	
32:54	1.164e+05	9.875e+04	1.18 y	2.152e+05	8.8801	1,2,3,4,7,8-HxCDF
33:02	3.782e+04	2.937e+04	1.29 y	6.719e+04	2.4803	1,2,3,6,7,8-HxCDF
33:39	3.131e+04	2.781e+04	1.13 y	5.912e+04	2.1934	2,3,4,6,7,8-HxCDF
34:36	1.626e+04	1.147e+04	1.42 y	2.773e+04	1.1575	1,2,3,7,8,9-HxCDF
34:40	5.610e+03	5.185e+03	1.08 y	1.080e+04	0.42207	

Totals class: HpCDF EMPC

Entry #: 35

Run: 16

File: 190626D2

S: 11 I: 1 F: 4

Acquired: 27-JUN-19 12:37:50

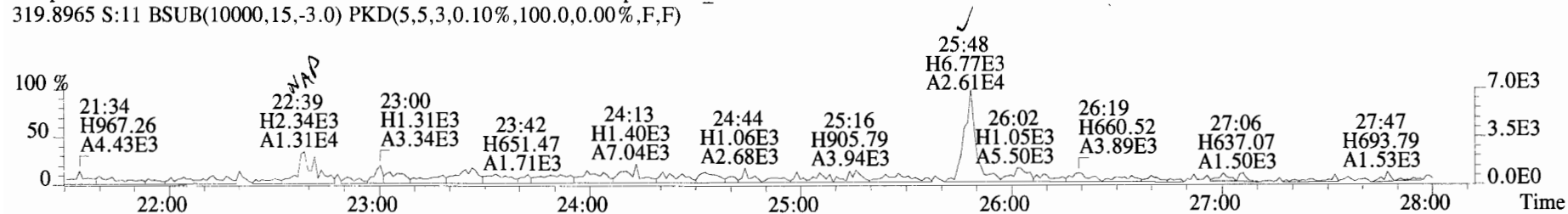
Processed: 27-JUN-19 17:02:08

Total Concentration: 112.17

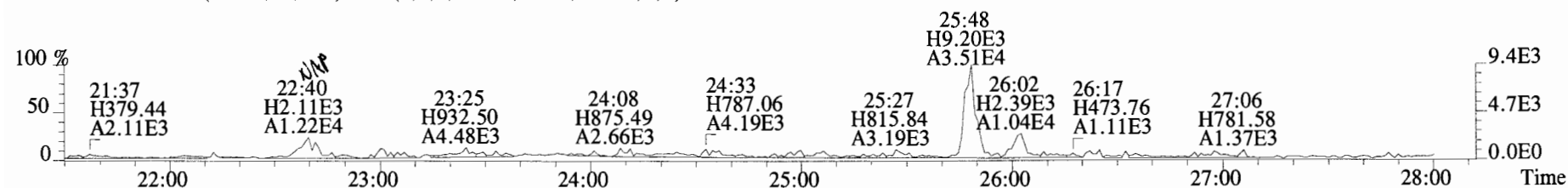
Unnamed Concentration: 75.332

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
36:24	3.868e+05	3.881e+05	1.00 y	7.749e+05	33.602	1,2,3,4,6,7,8-HpCDF
37:00	8.500e+05	8.509e+05	1.00 y	1.701e+06	75.332	
38:12	3.598e+04	3.587e+04	1.00 y	7.185e+04	3.2330	1,2,3,4,7,8,9-HpCDF

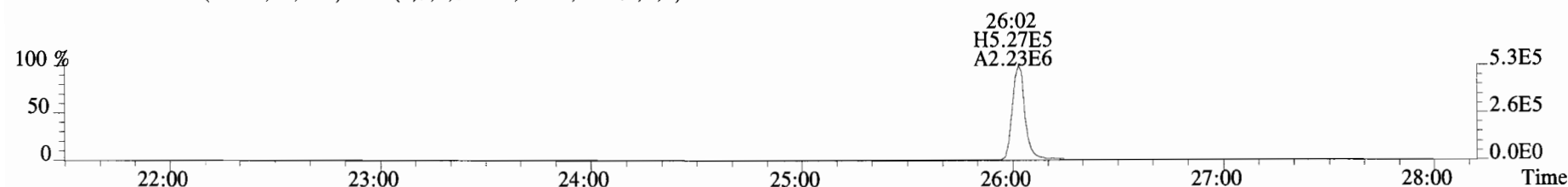
File:190626D2 #1-513 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
 319.8965 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



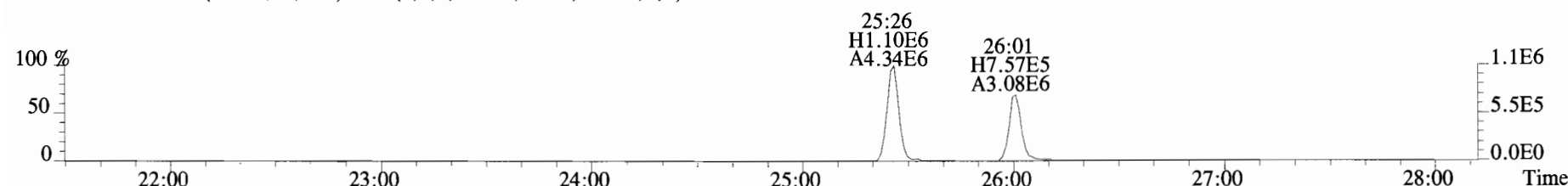
321.8936 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



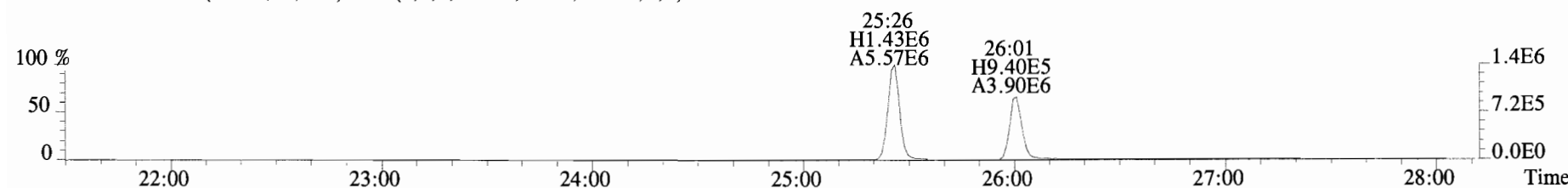
327.8847 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



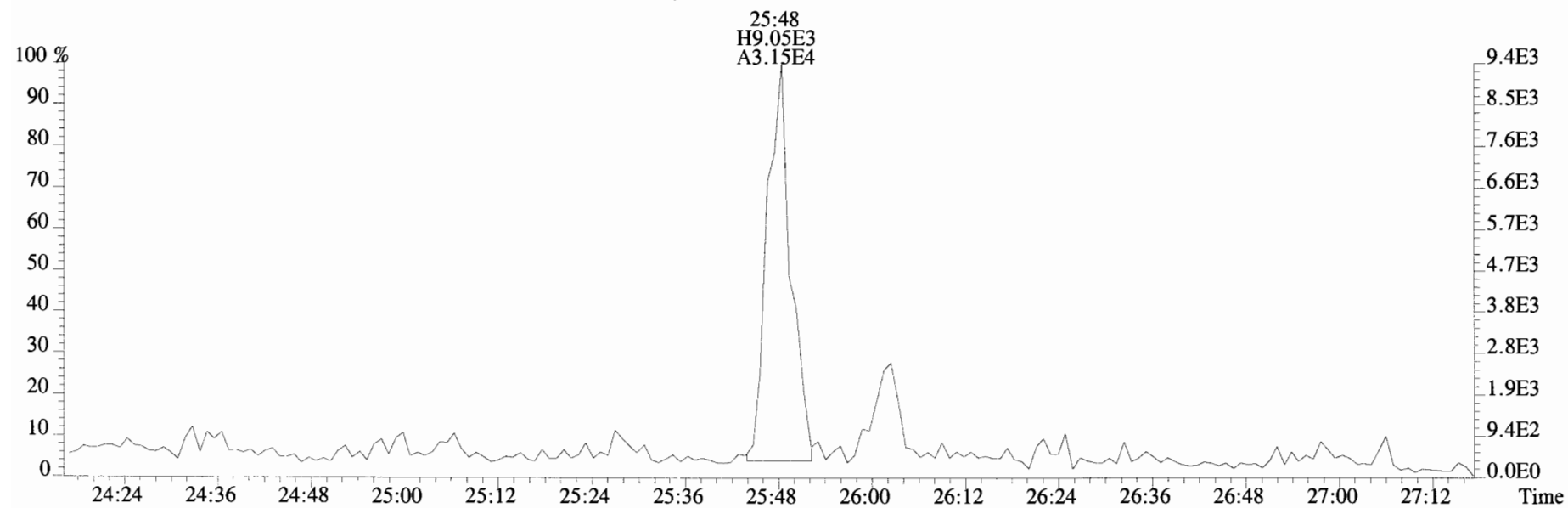
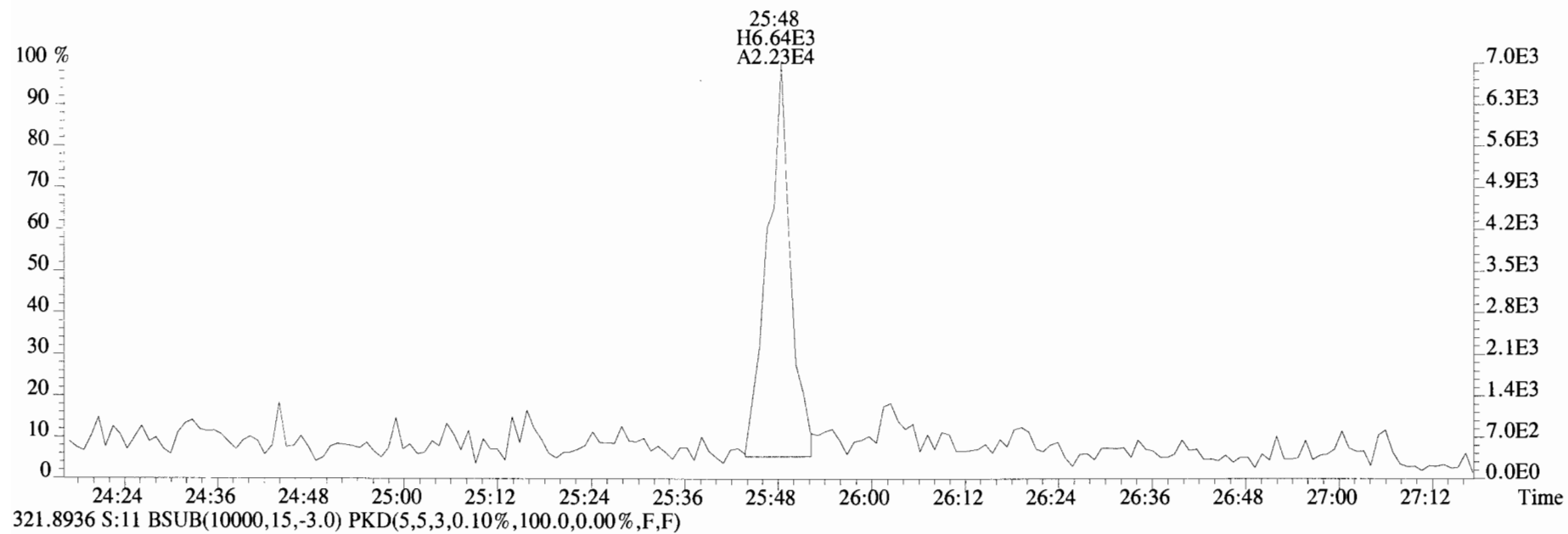
331.9368 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



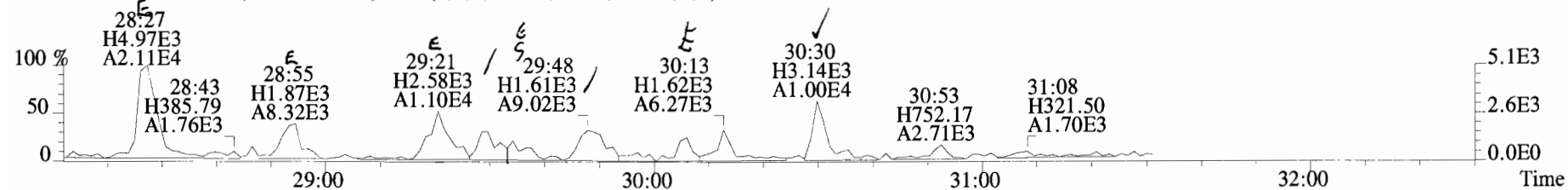
333.9339 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



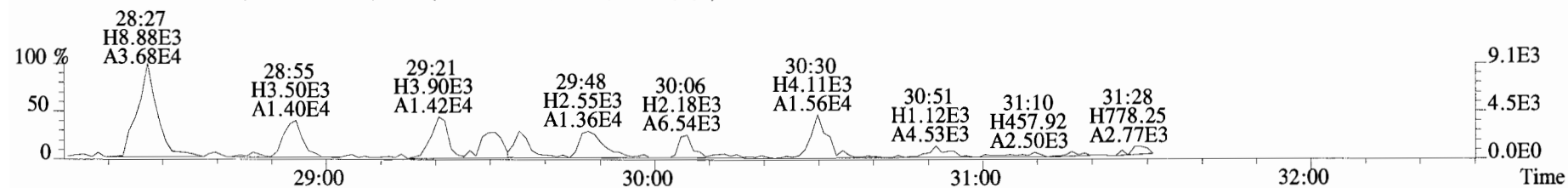
File:190626D2 #1-513 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
319.8965 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



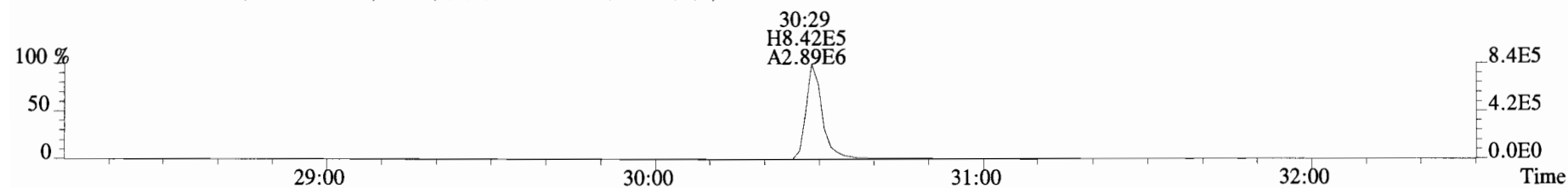
File:190626D2 #1-185 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



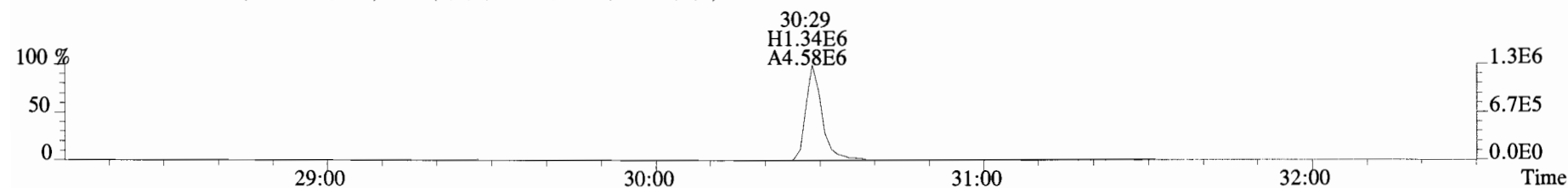
355.8546 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



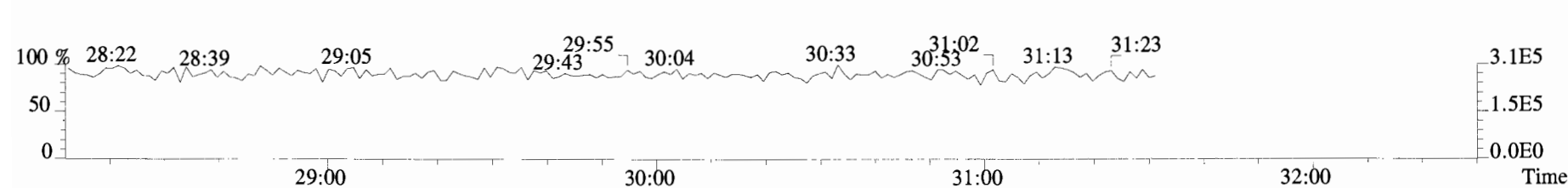
365.8978 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



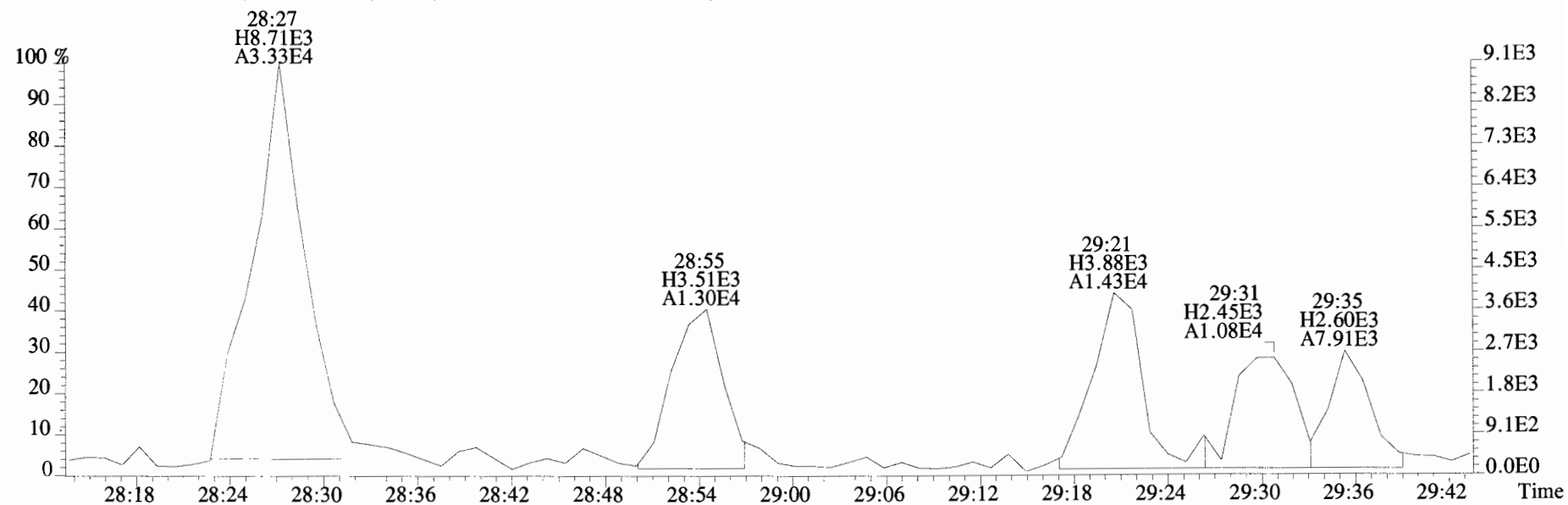
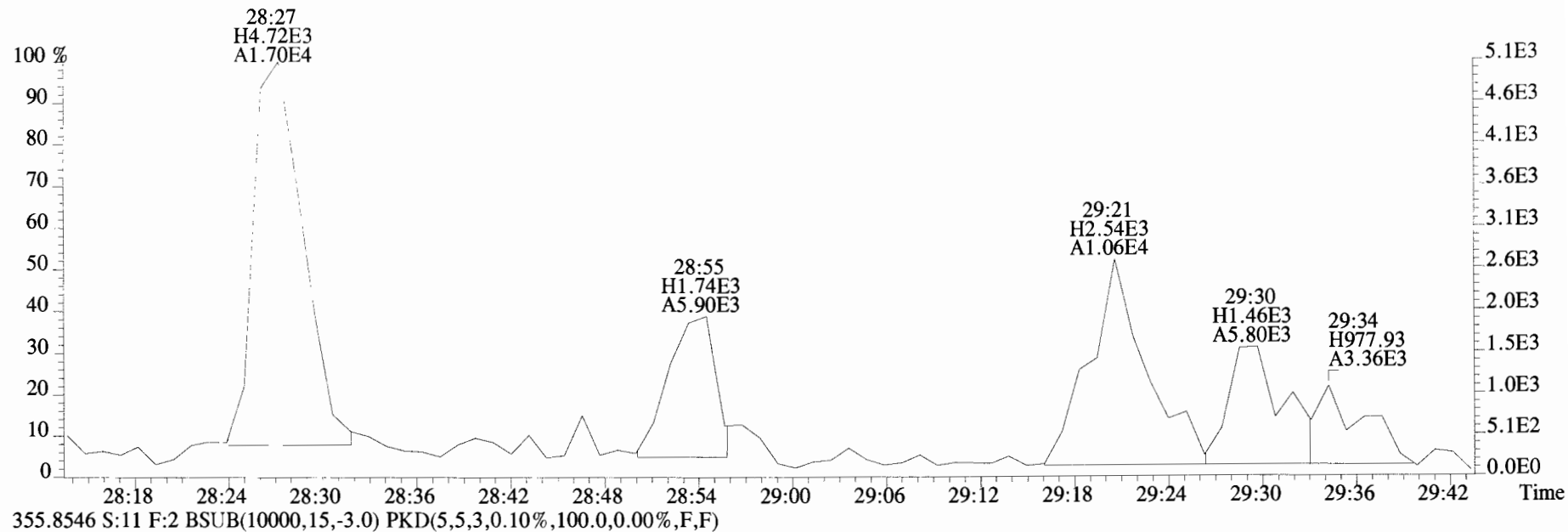
367.8949 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



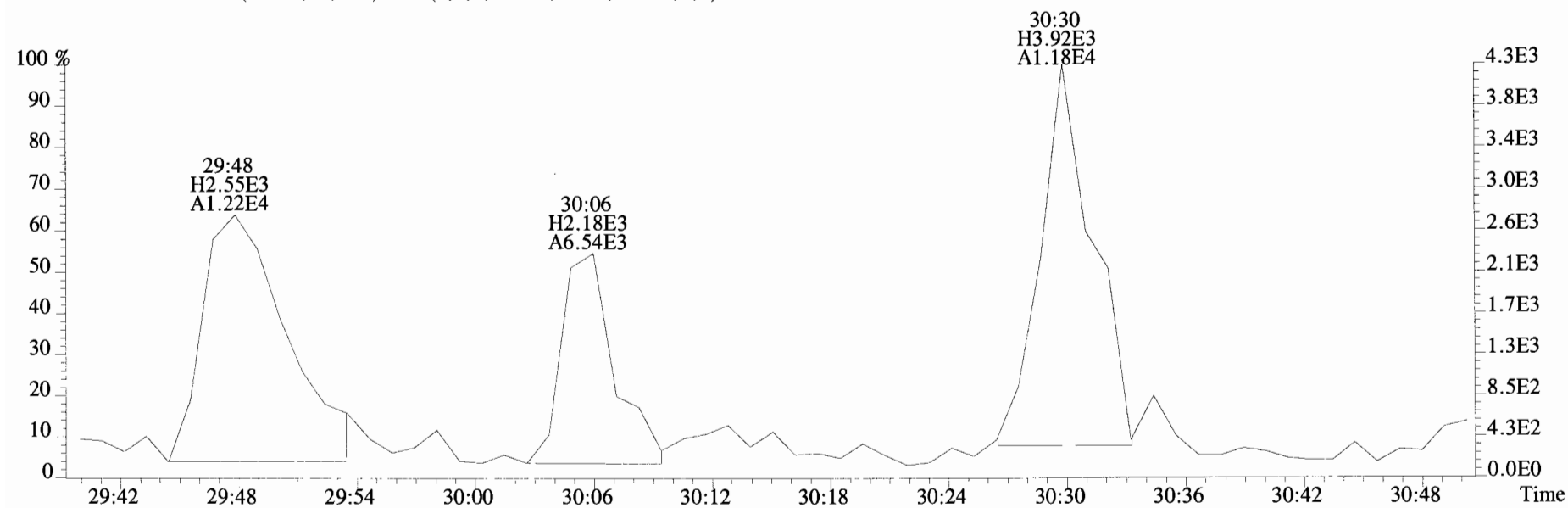
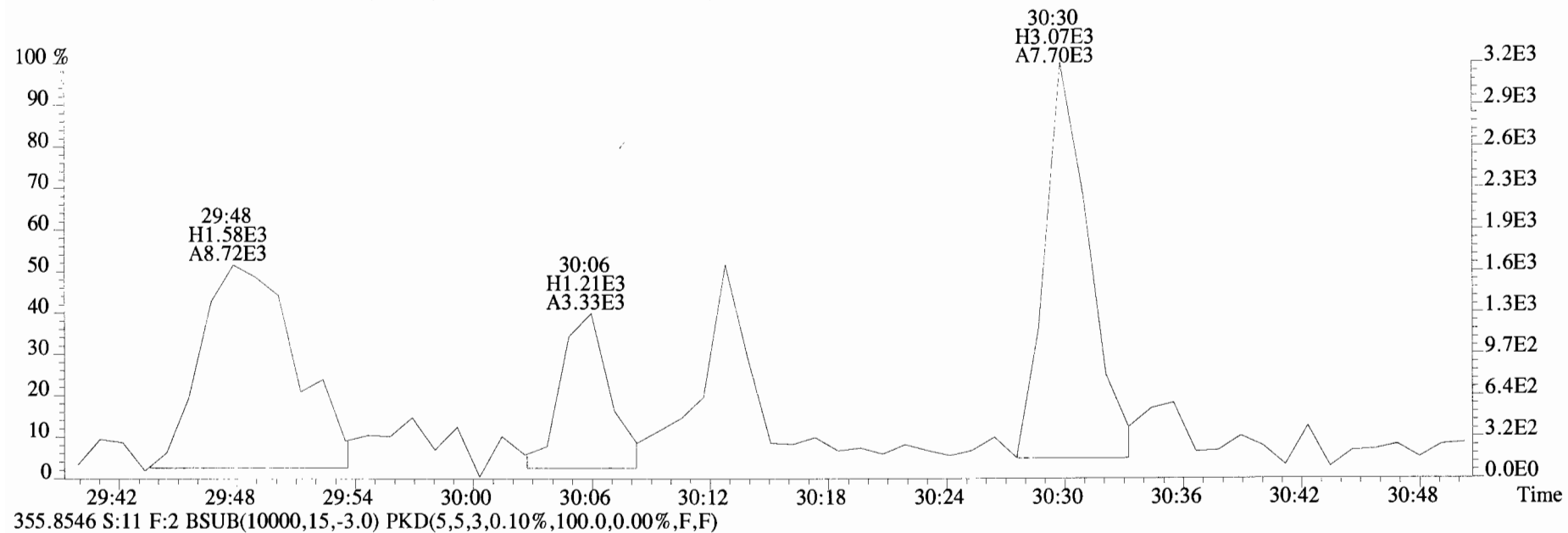
366.9792 S:11 F:2



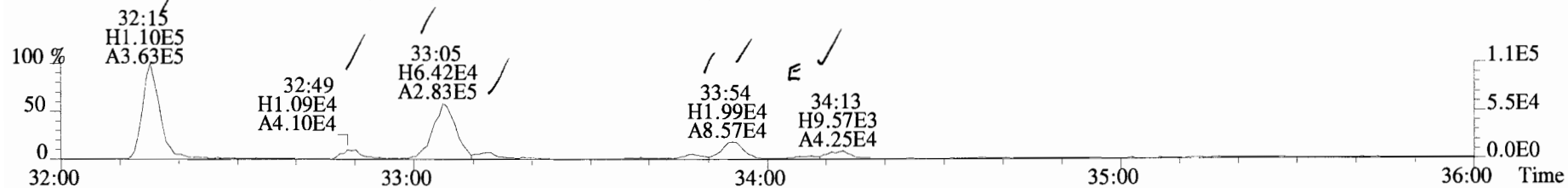
File:190626D2 #1-185 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
 353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



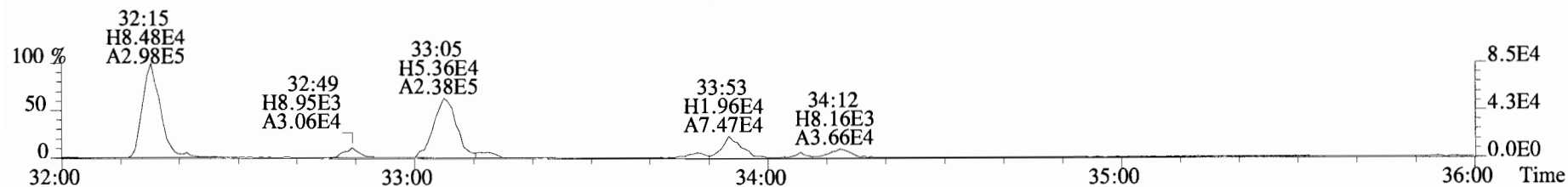
File:190626D2 #1-185 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



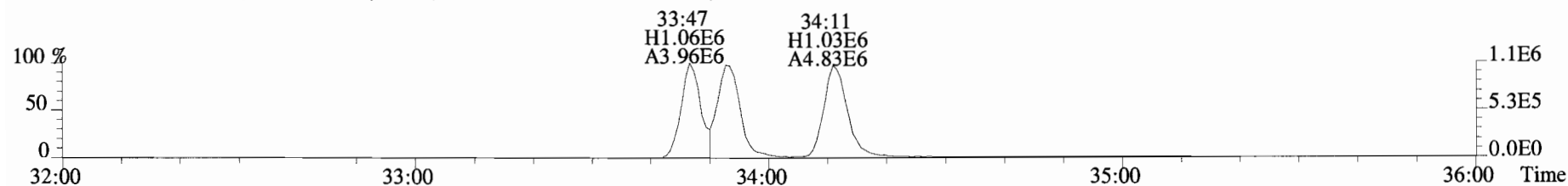
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



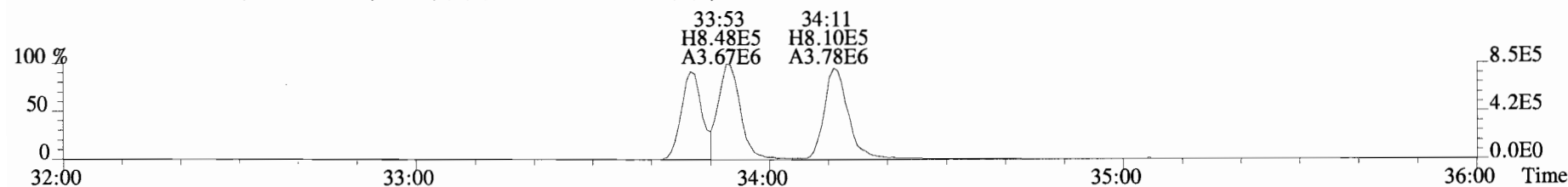
391.8127 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



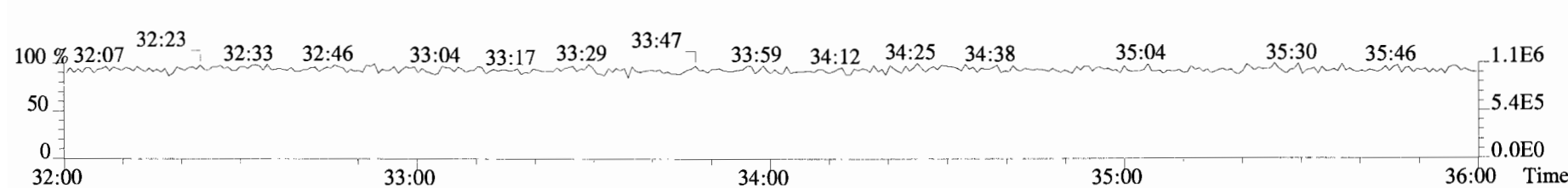
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



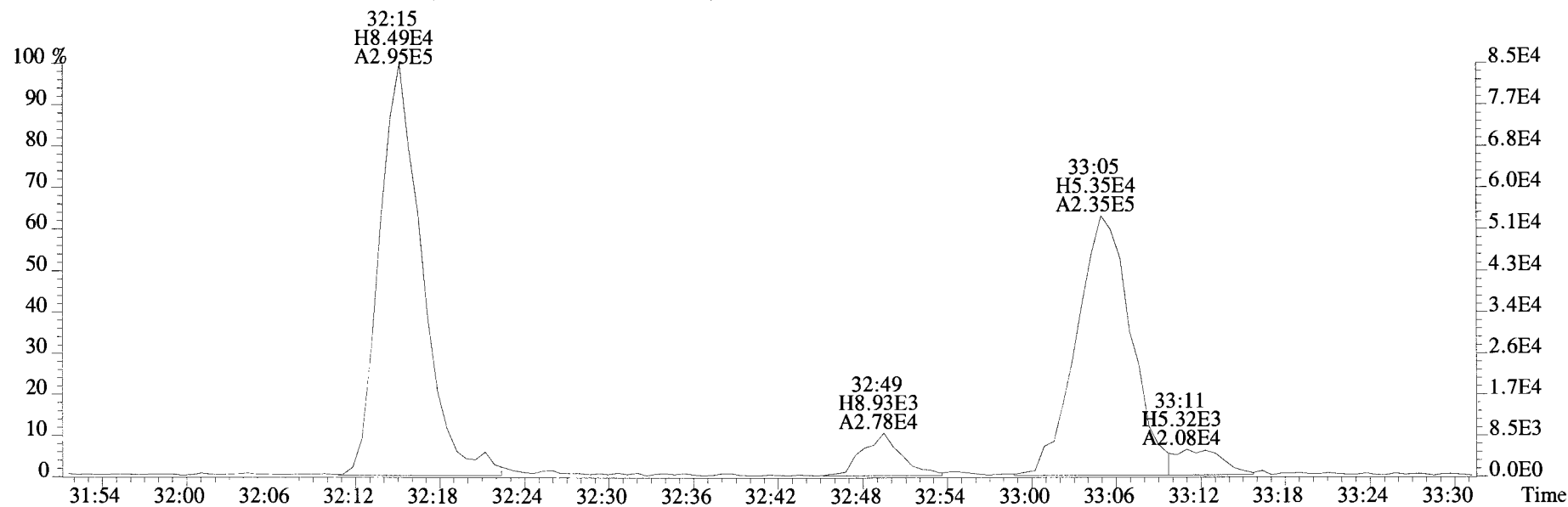
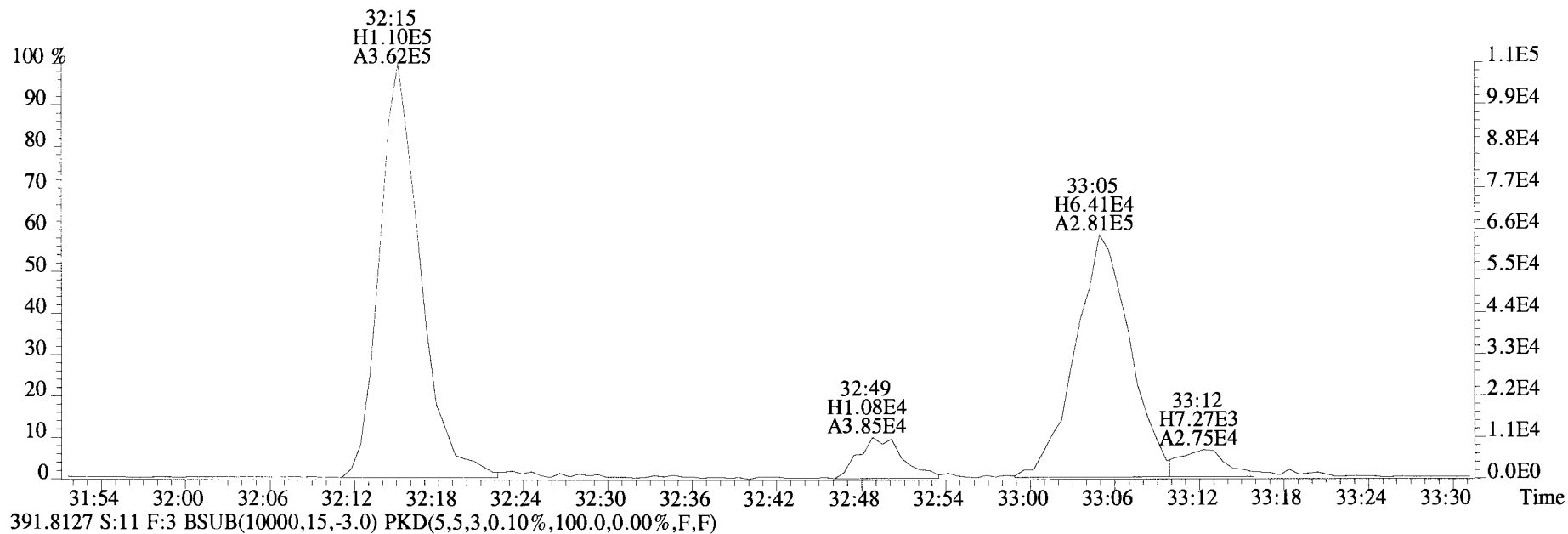
403.8530 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



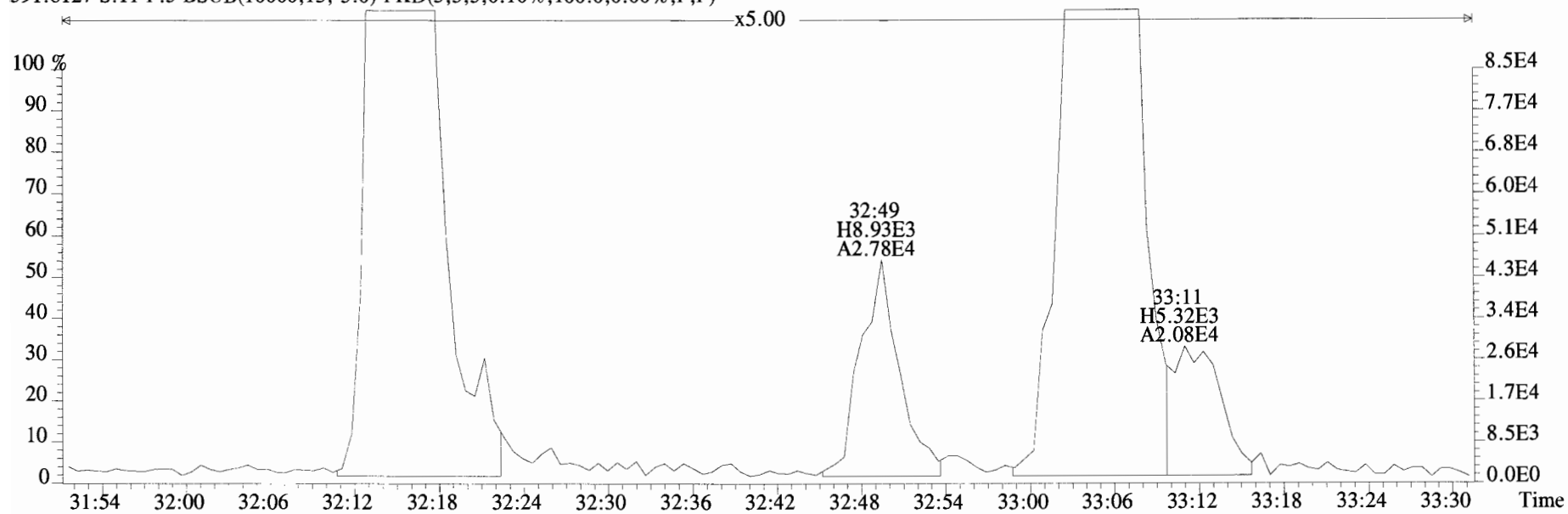
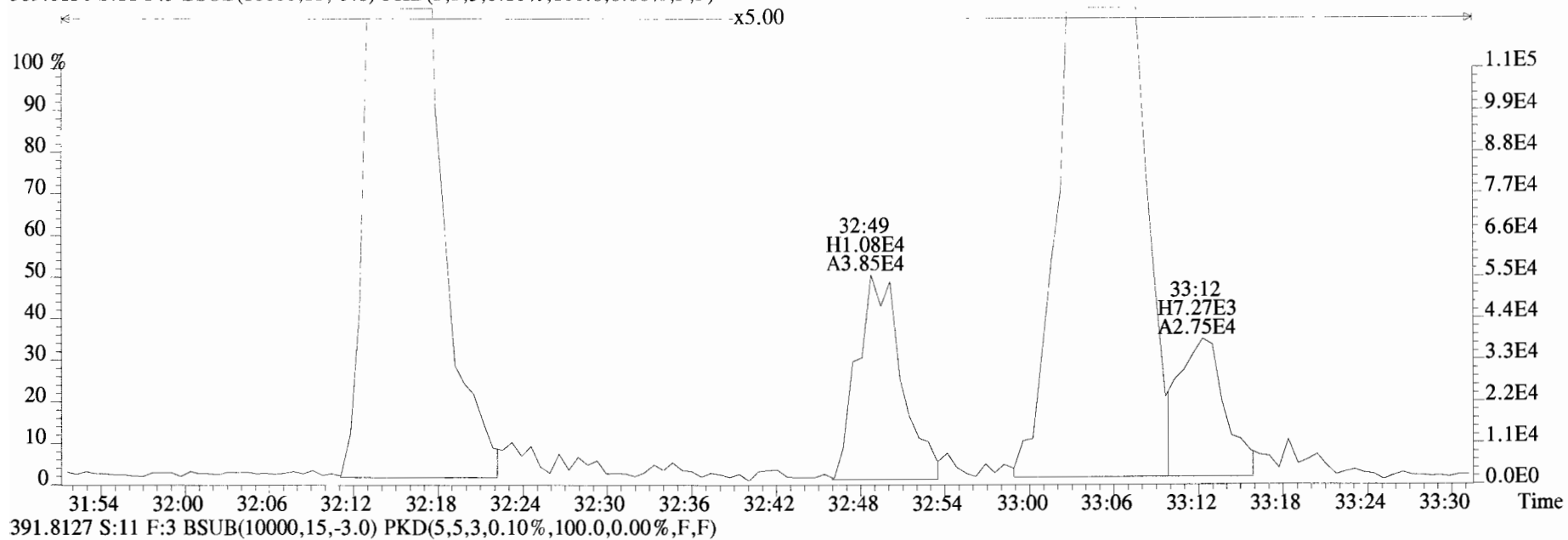
392.9760 S:11 F:3



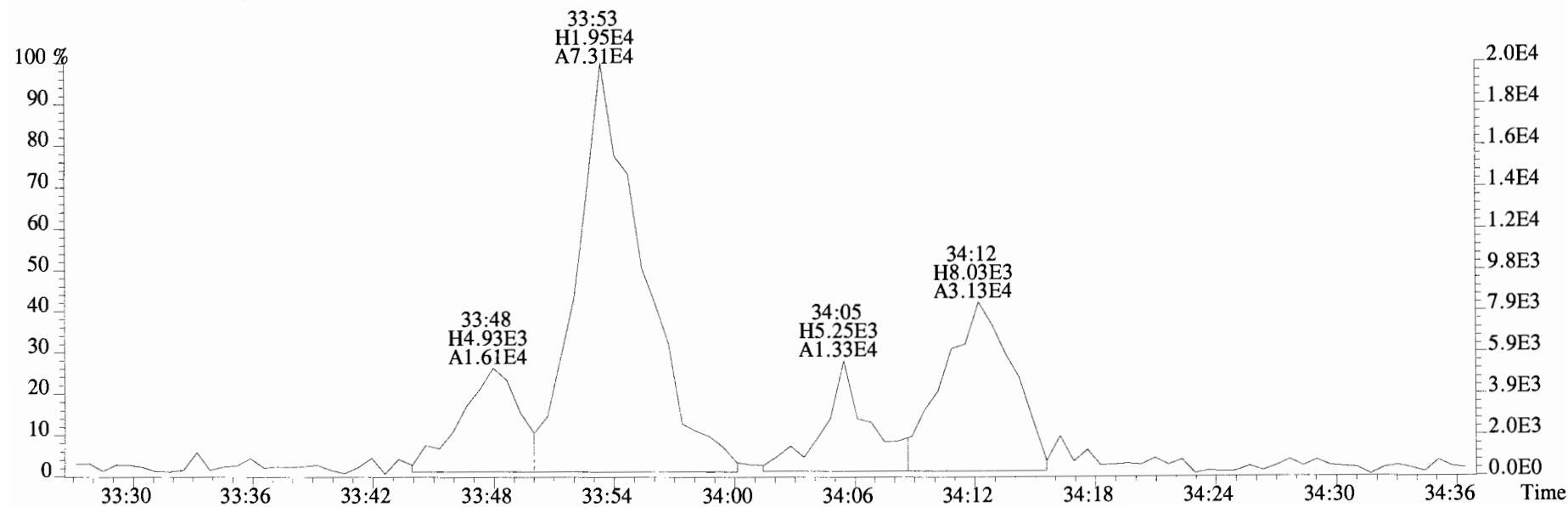
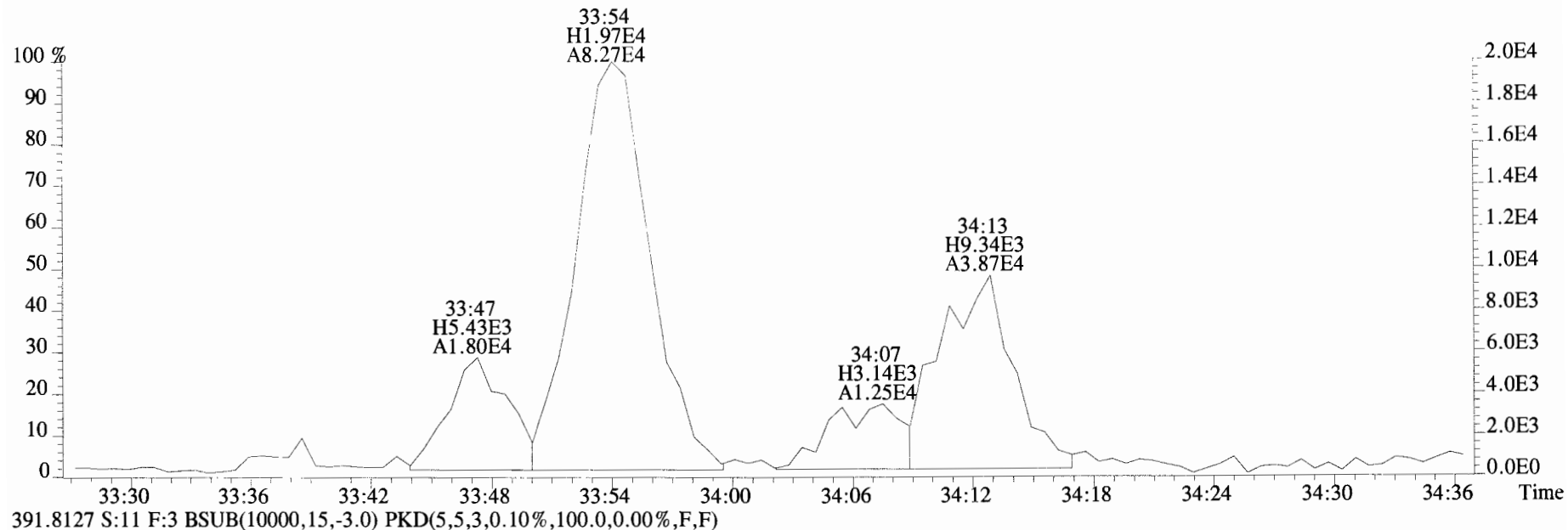
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



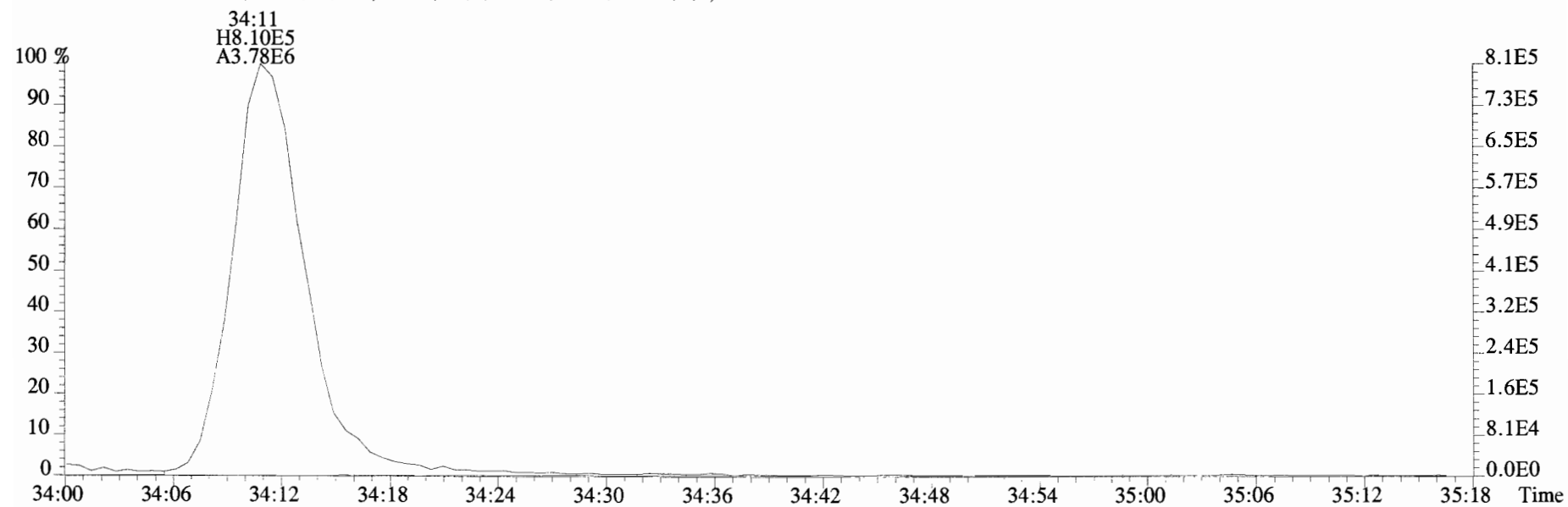
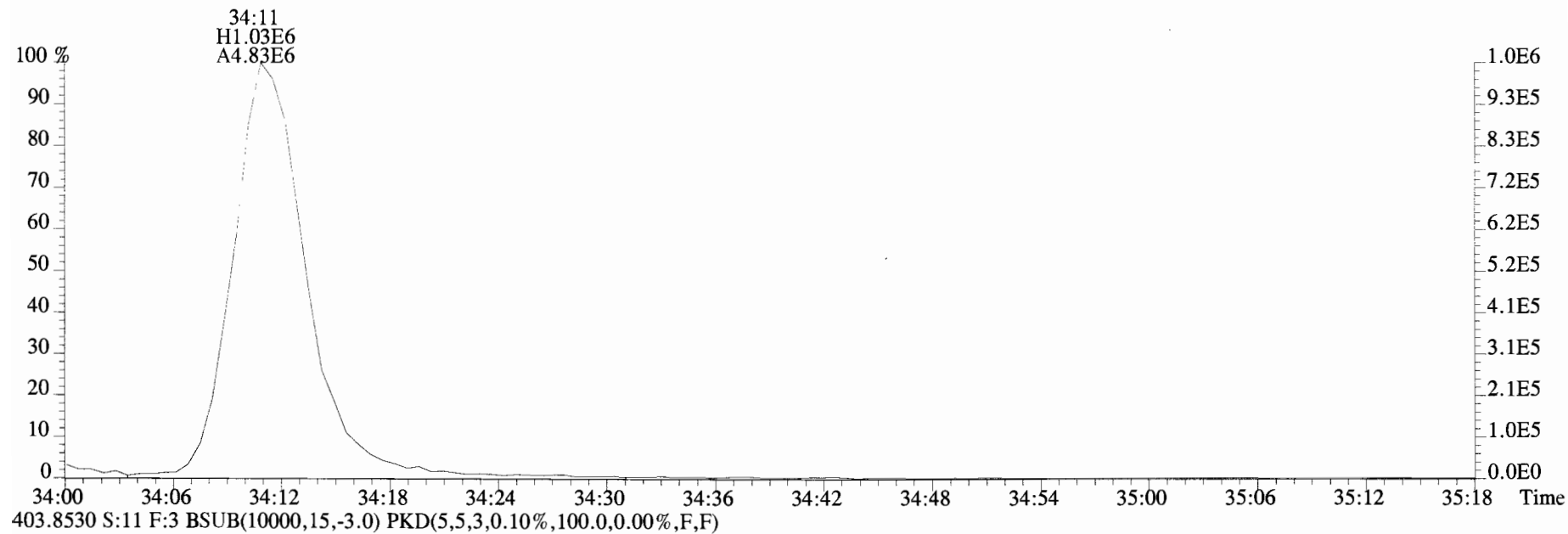
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Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
 389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



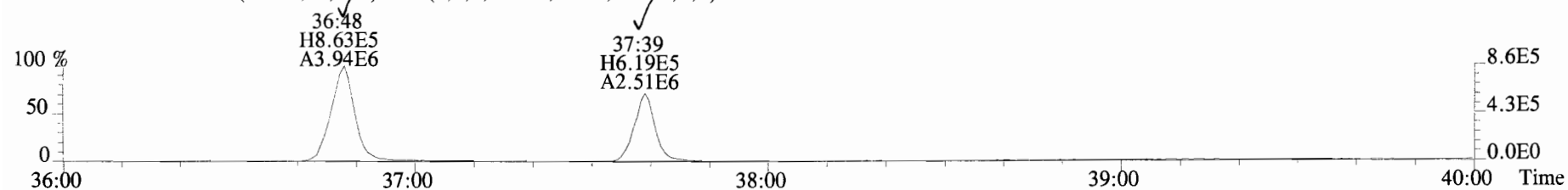
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



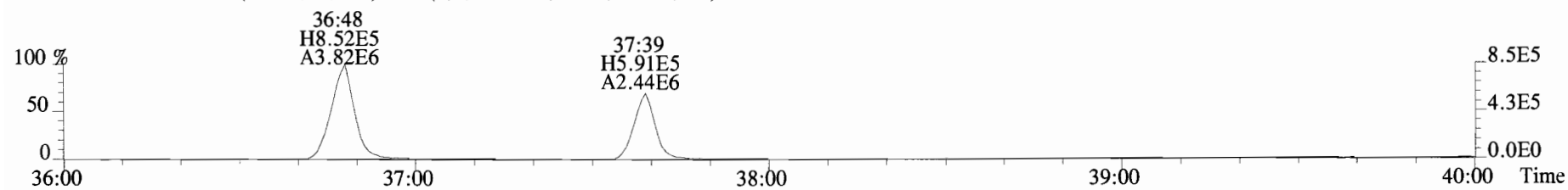
File:190626D2 #1-355 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE

Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5

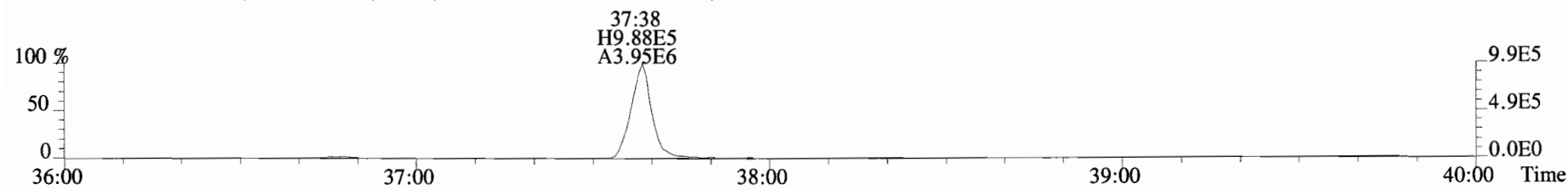
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



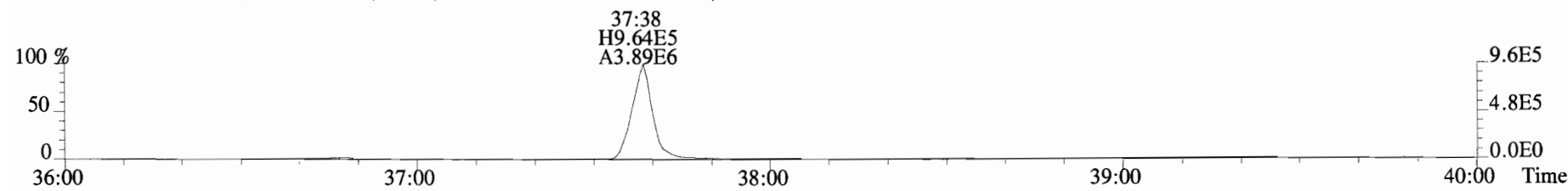
425.7737 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



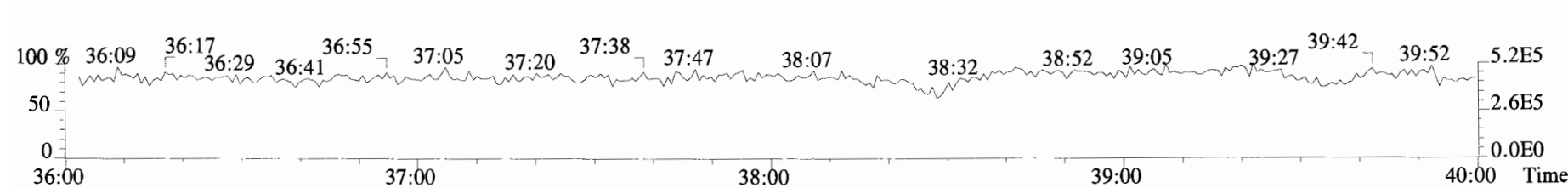
435.8169 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



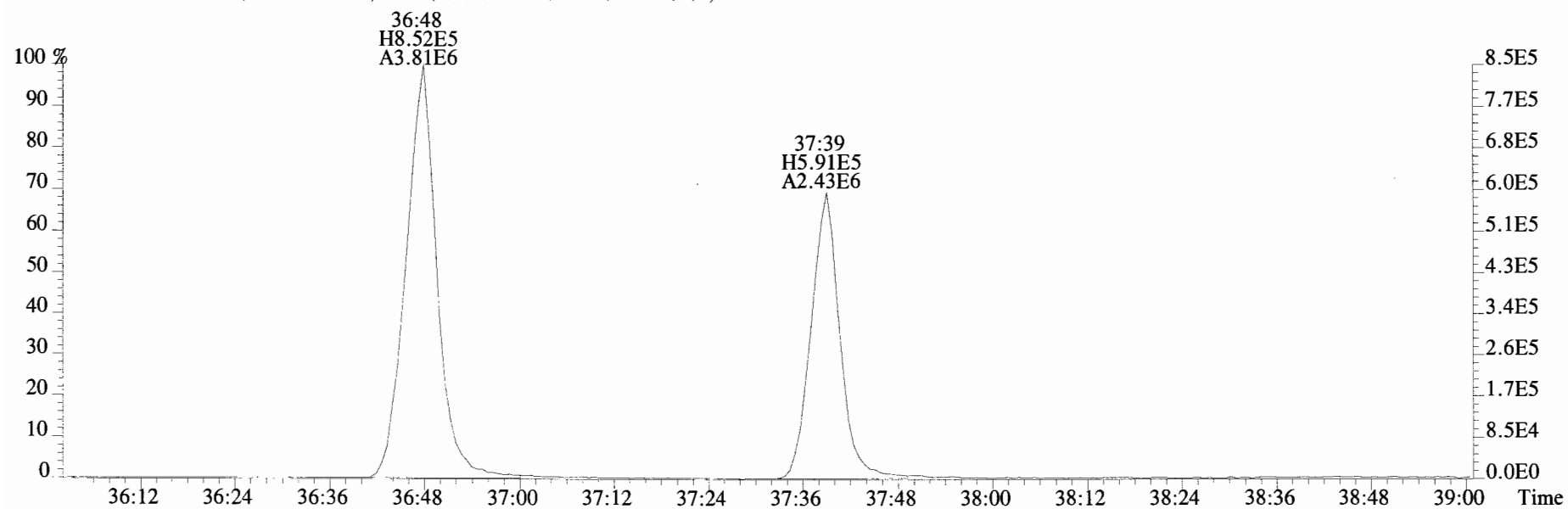
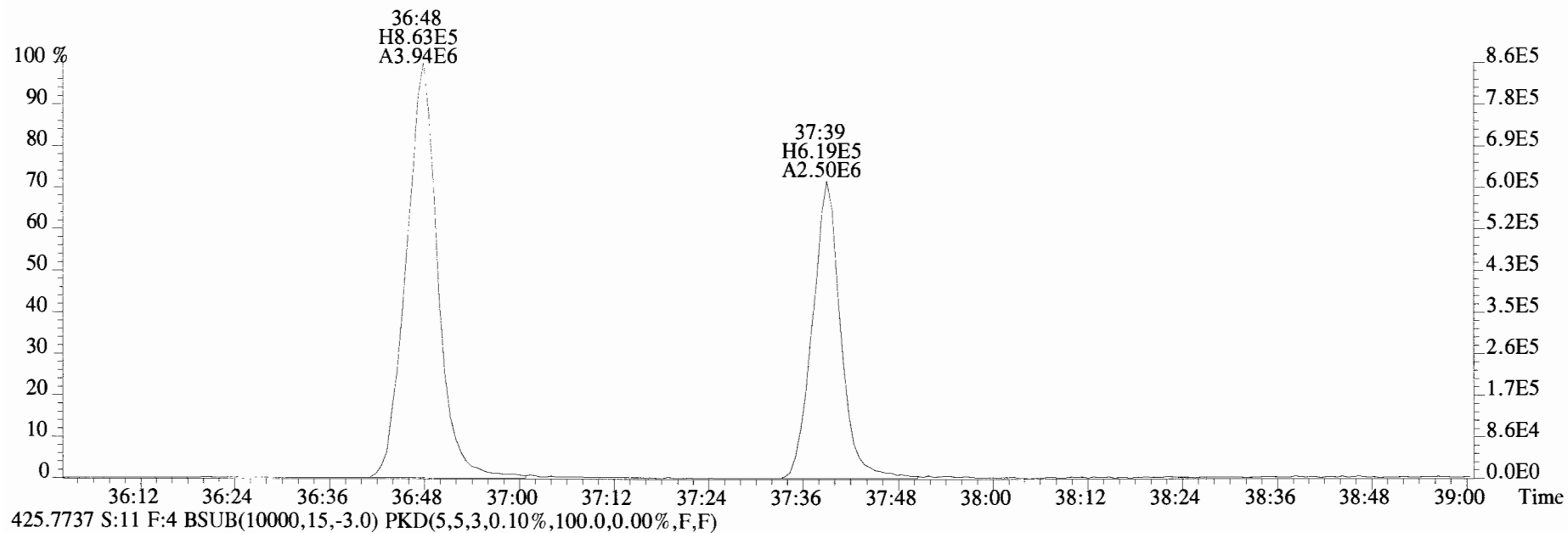
437.8140 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



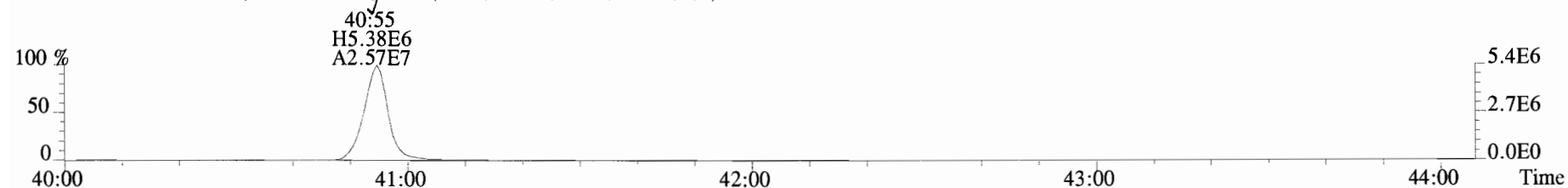
454.9728 S:11 F:4



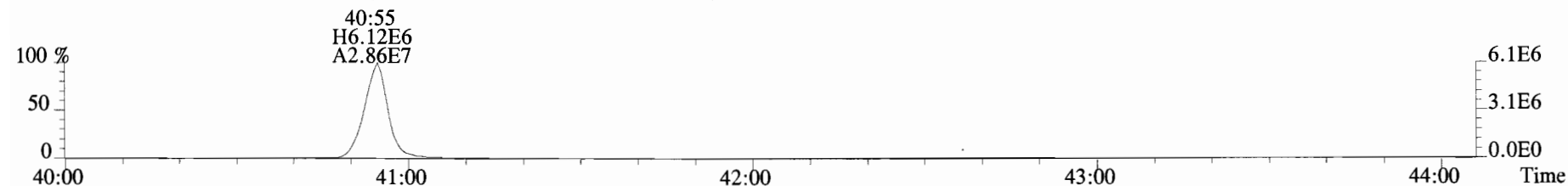
File:190626D2 #1-355 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



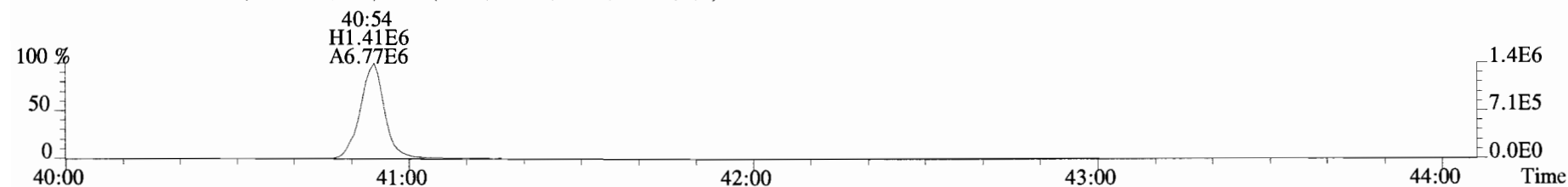
File:190626D2 #1-432 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



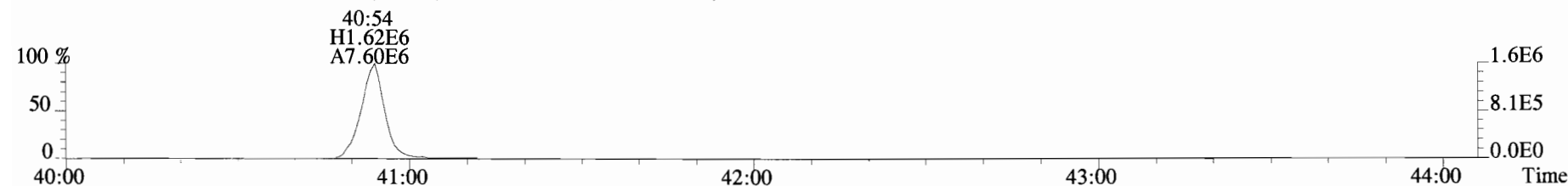
459.7348 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



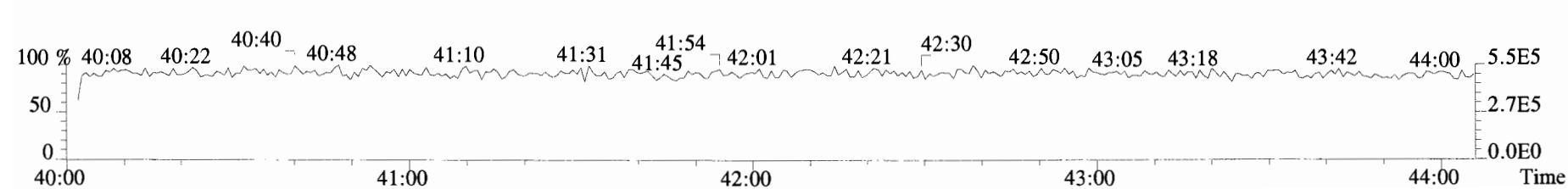
469.7780 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



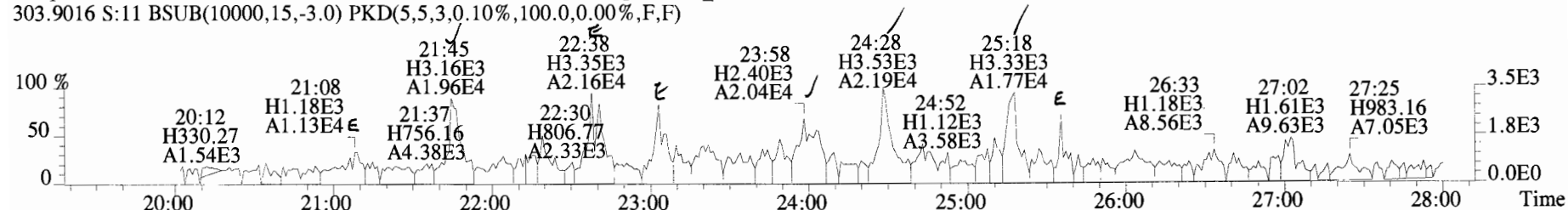
471.7750 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



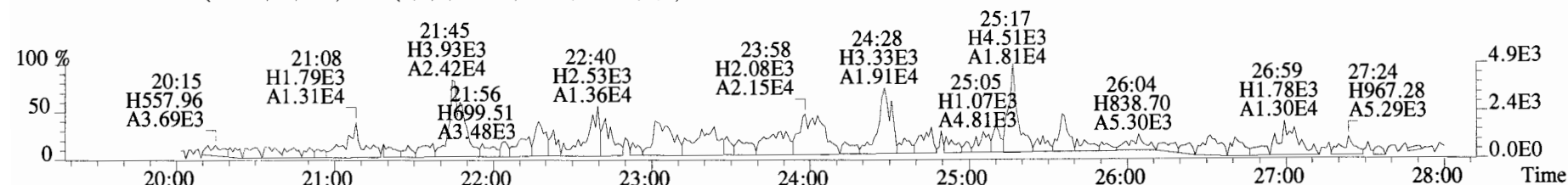
454.9728 S:11 F:5



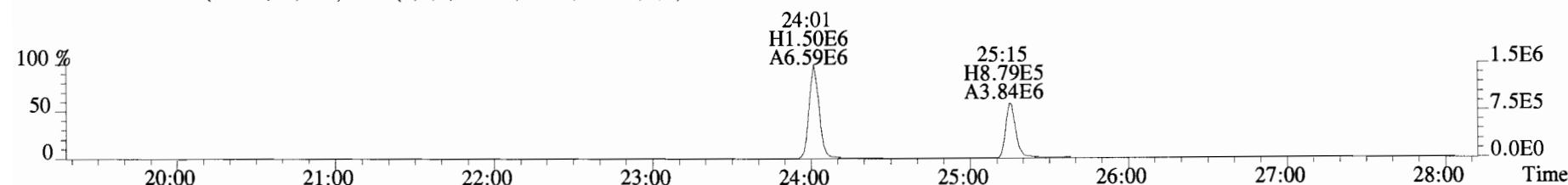
File:190626D2 #1-513 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



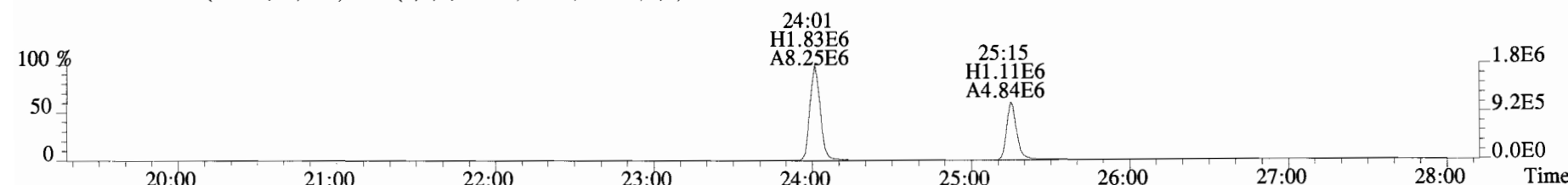
305.8987 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



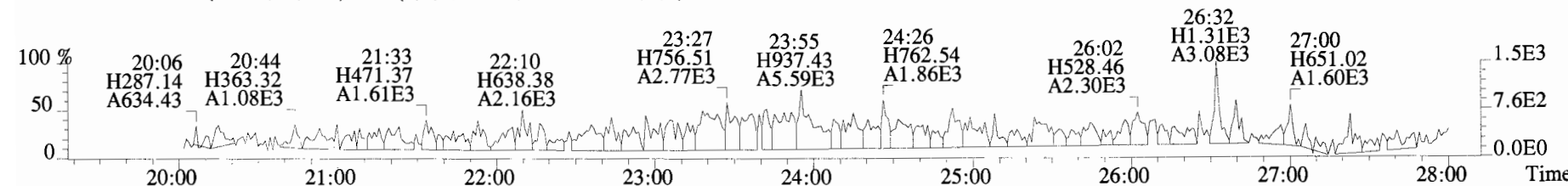
315.9419 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



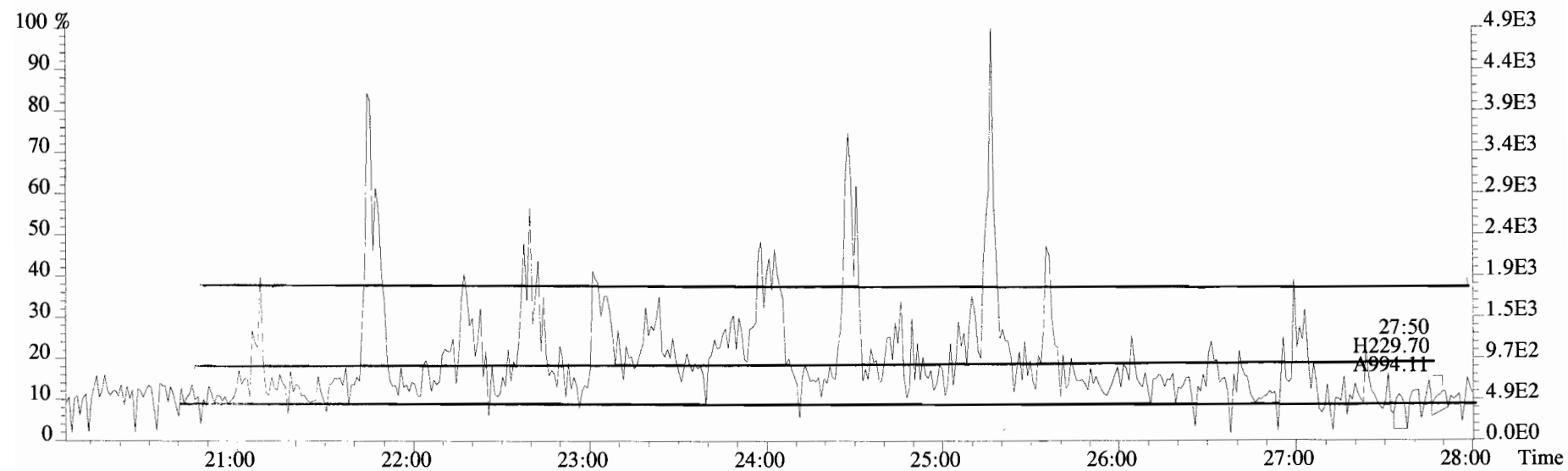
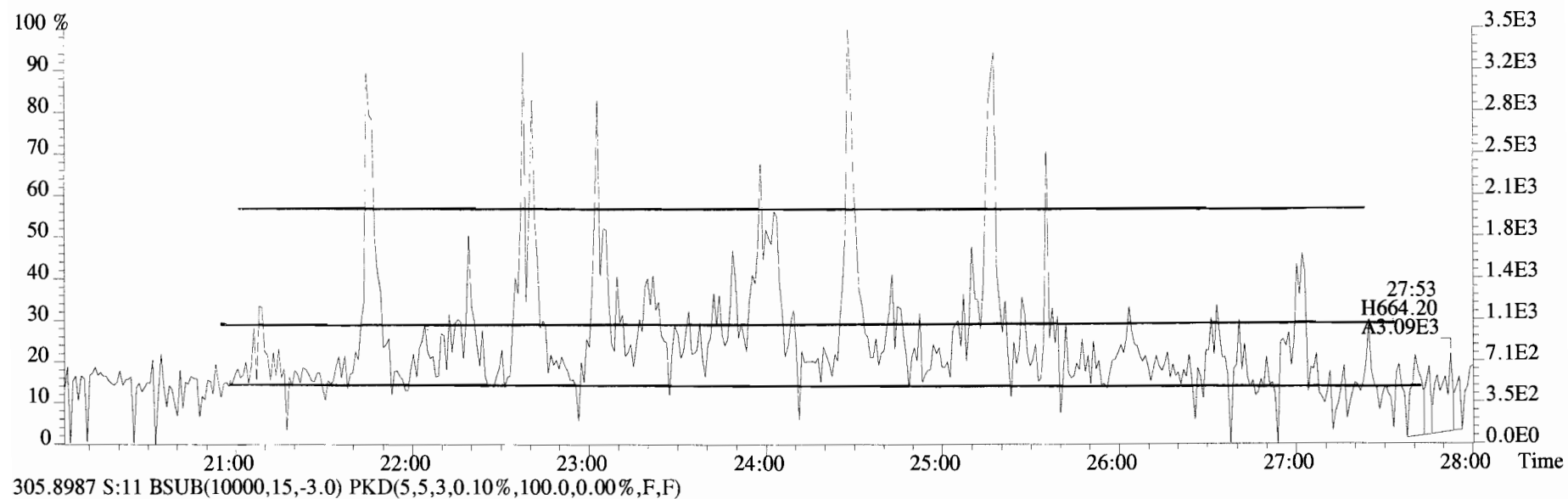
317.9389 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



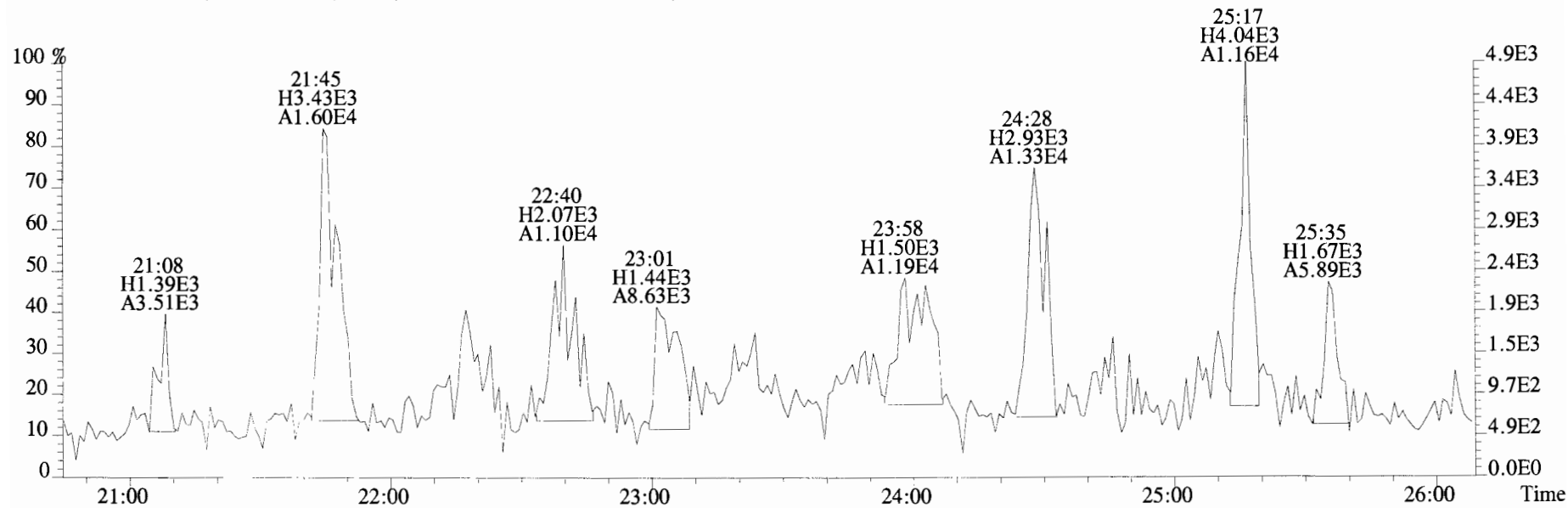
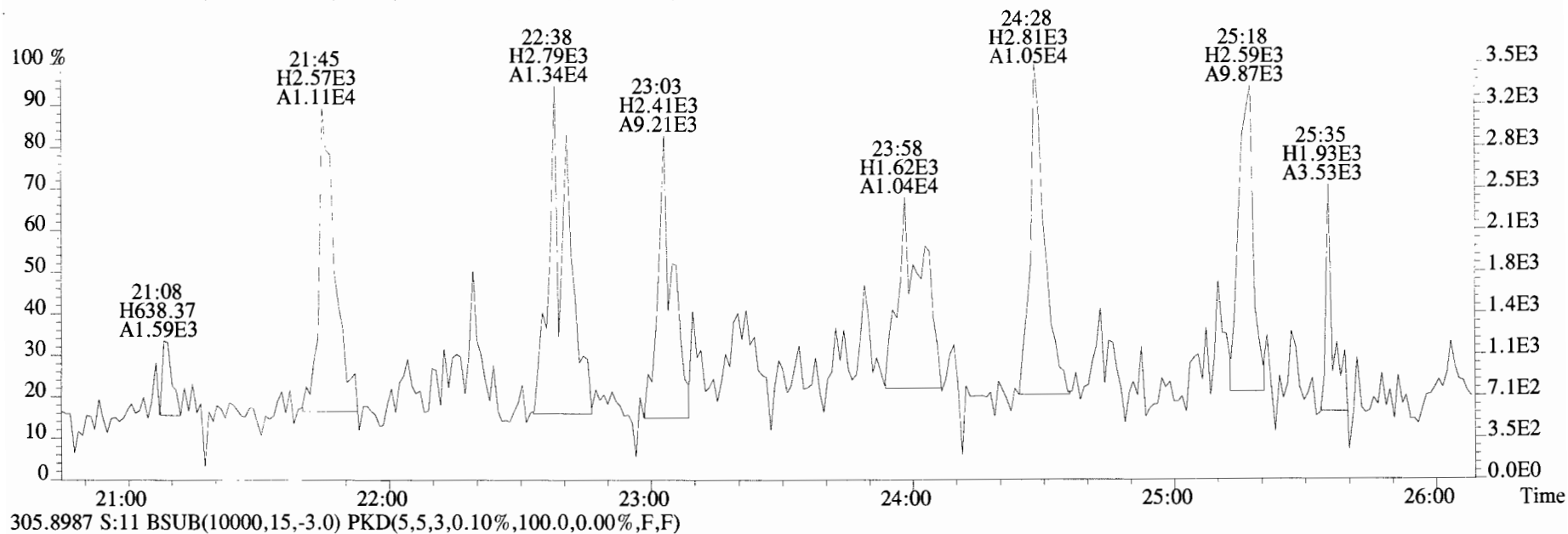
375.8364 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



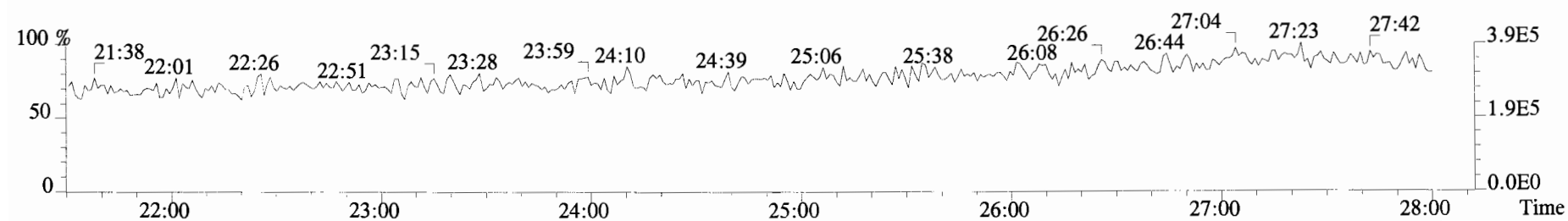
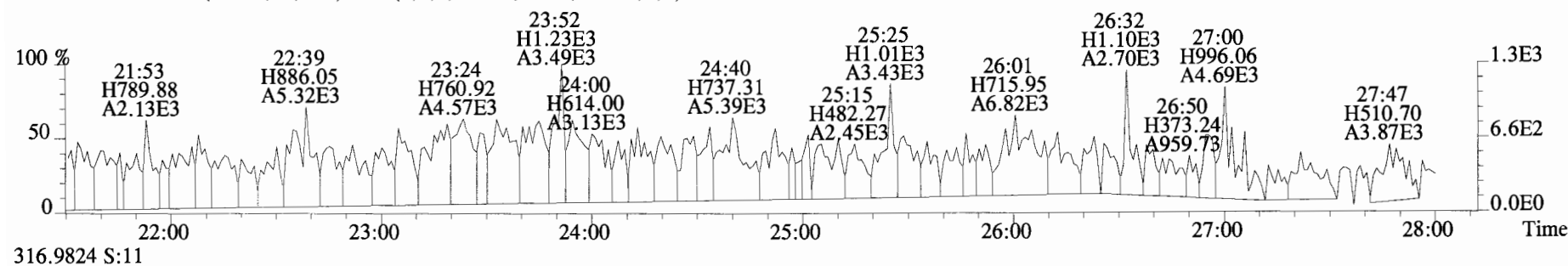
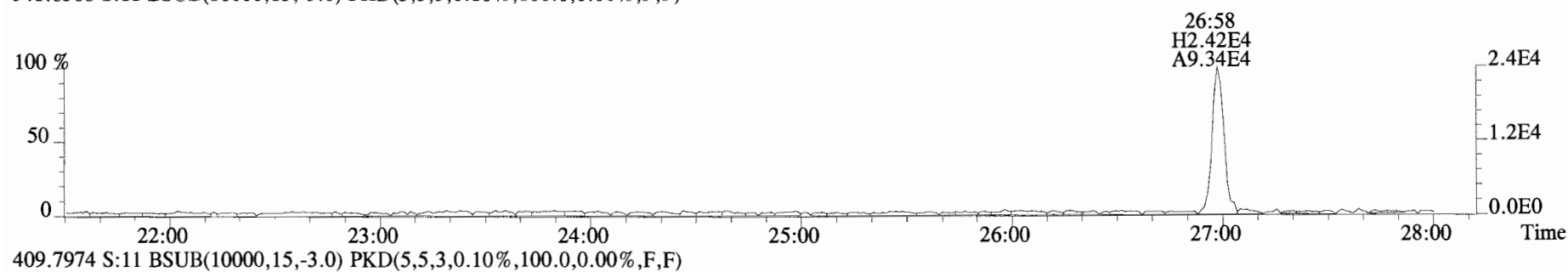
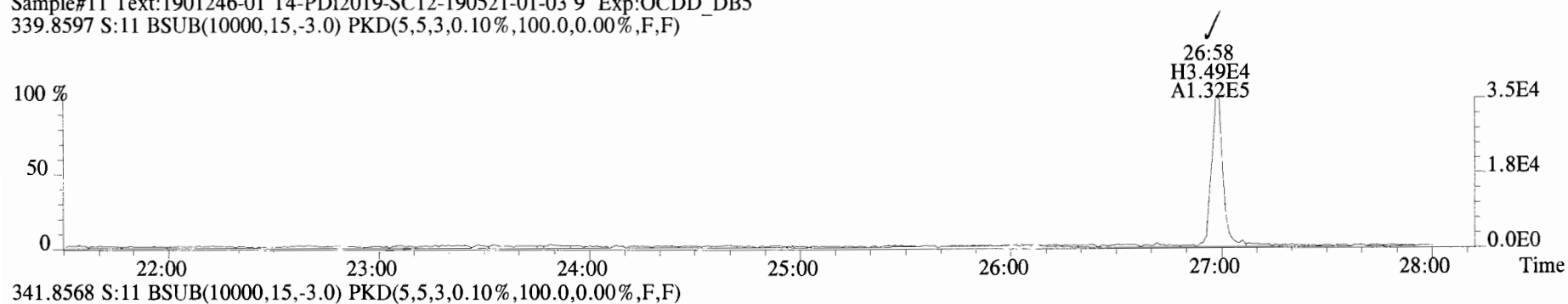
File:190626D2 #1-513 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



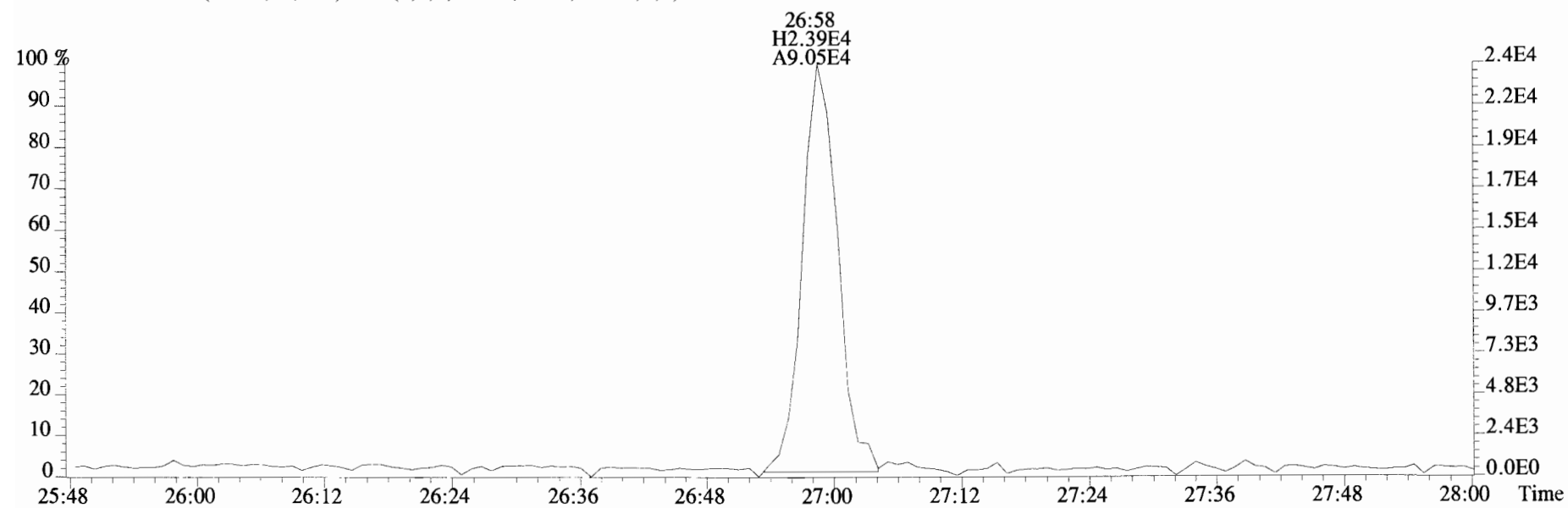
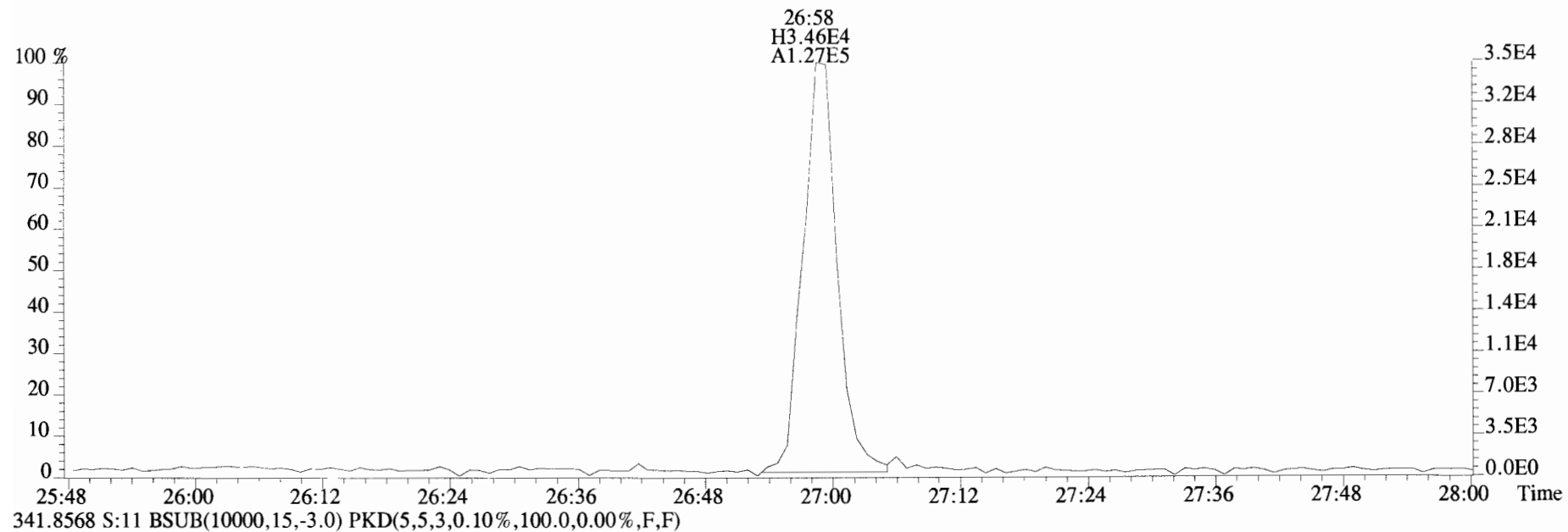
File:190626D2 #1-513 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
 303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



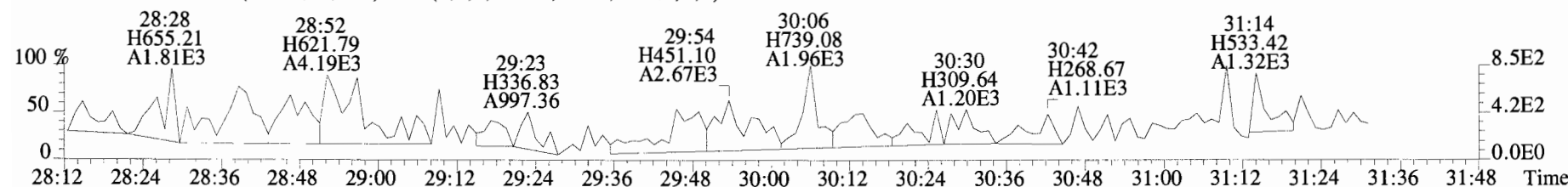
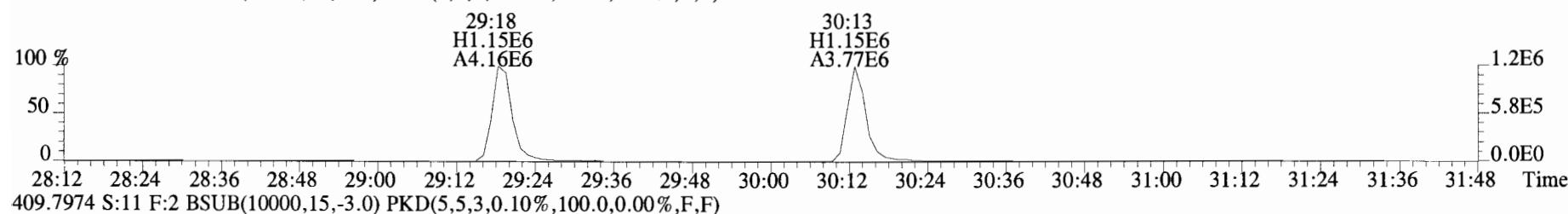
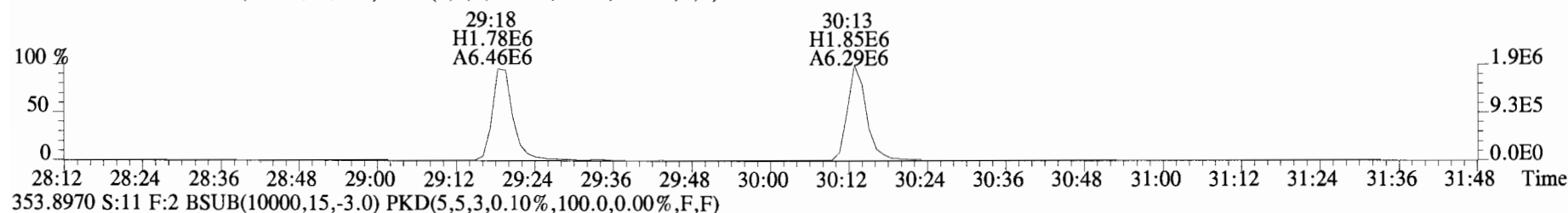
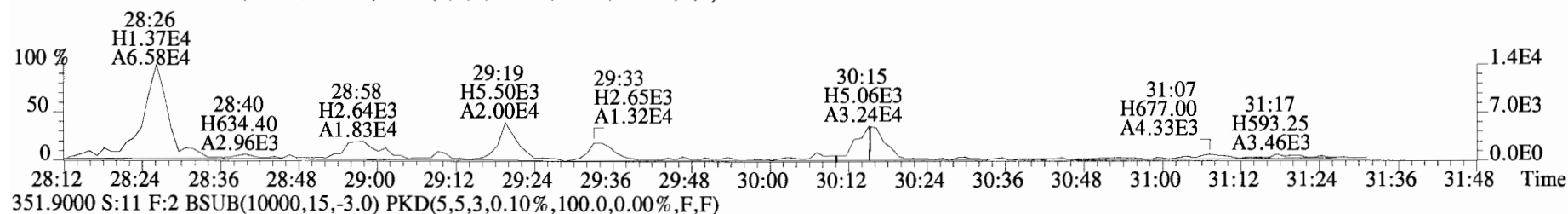
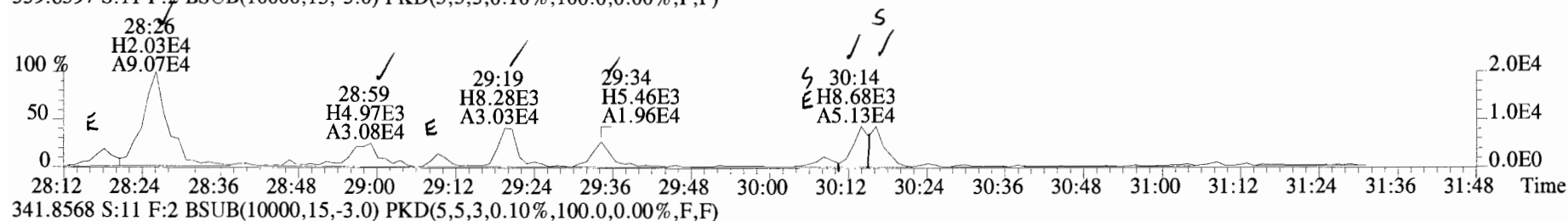
File:190626D2 #1-513 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



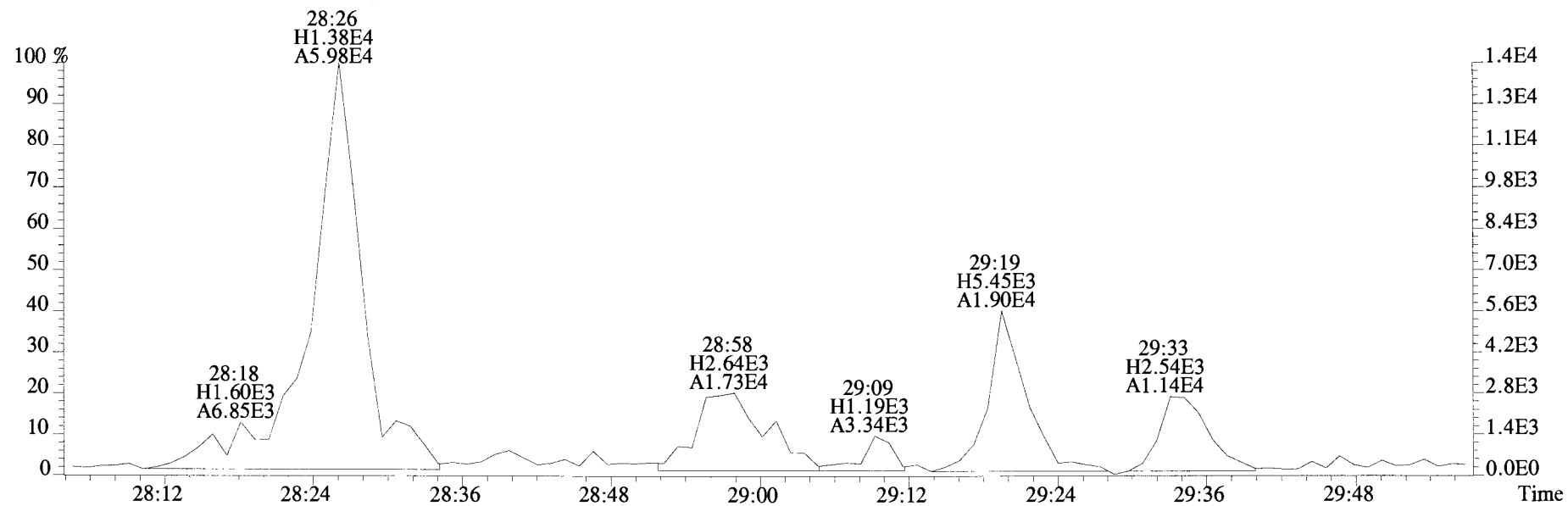
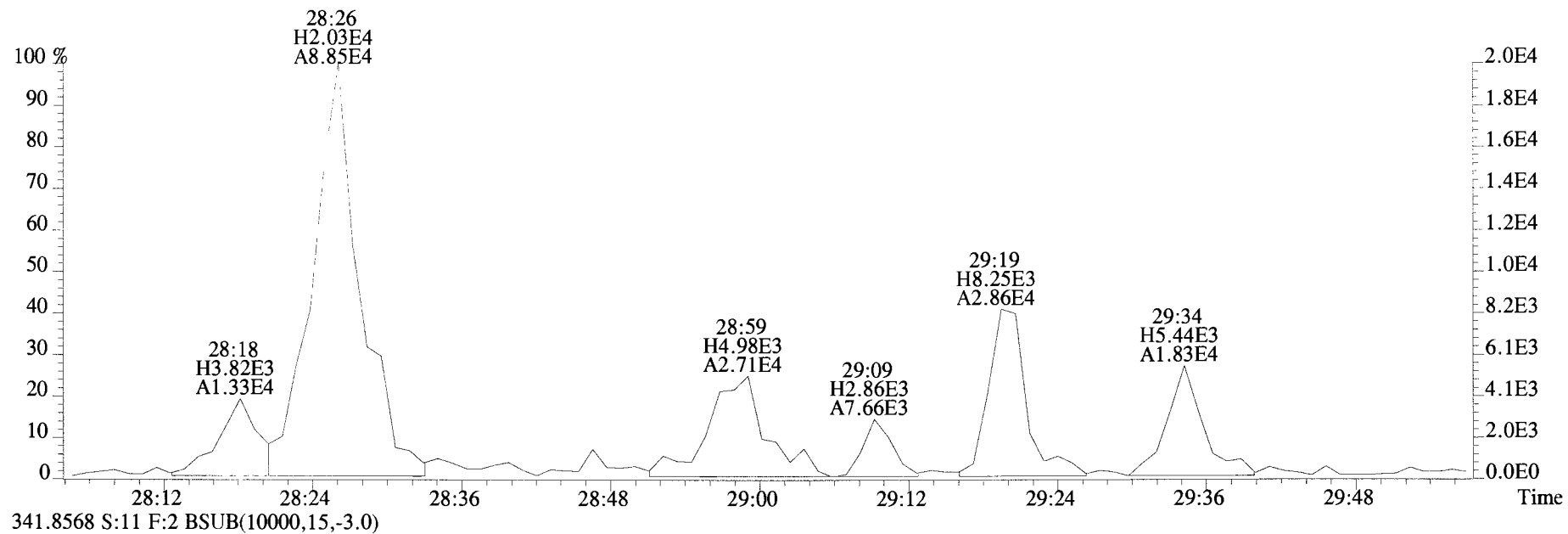
File:190626D2 #1-513 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



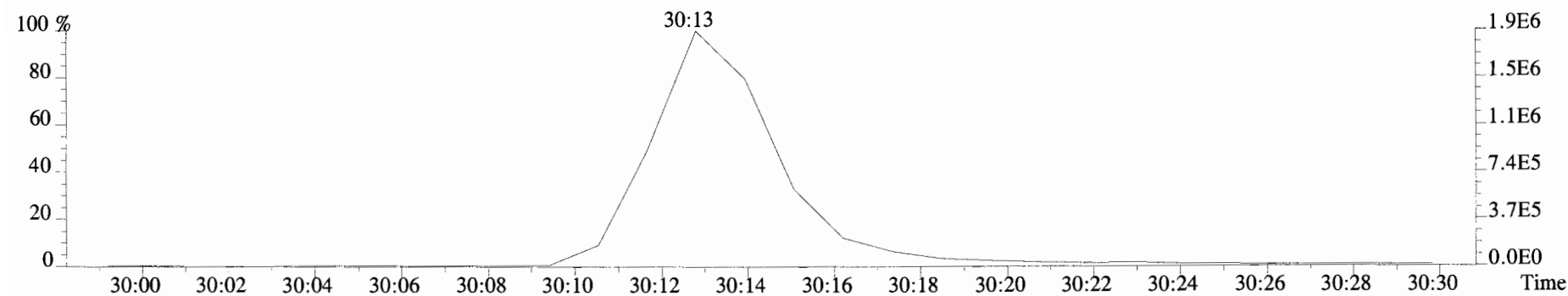
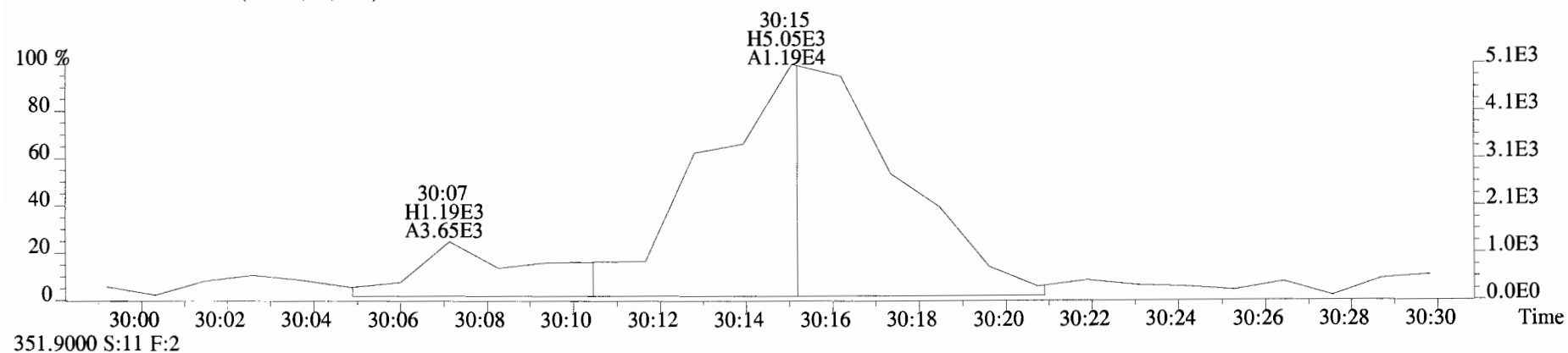
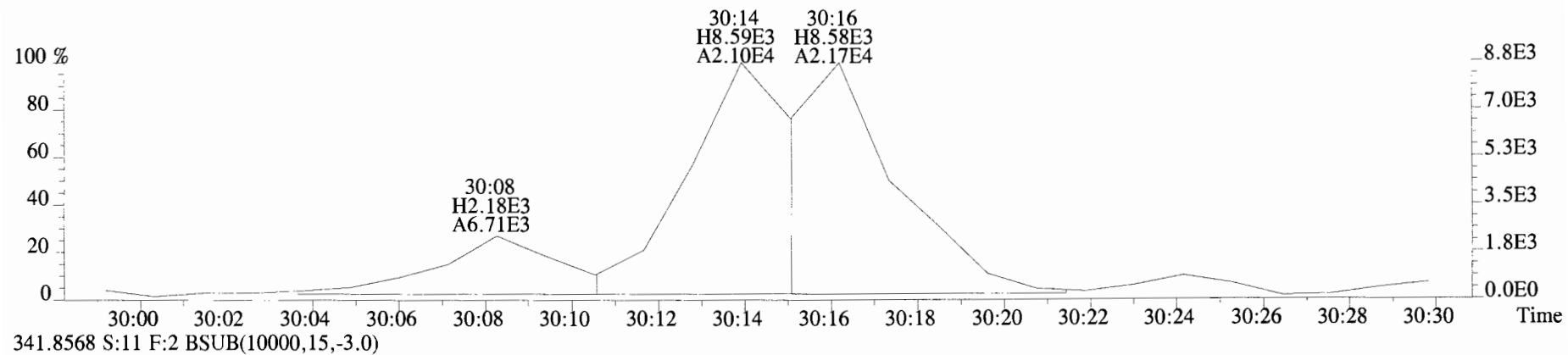
File:190626D2 #1-185 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
 339.8597 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



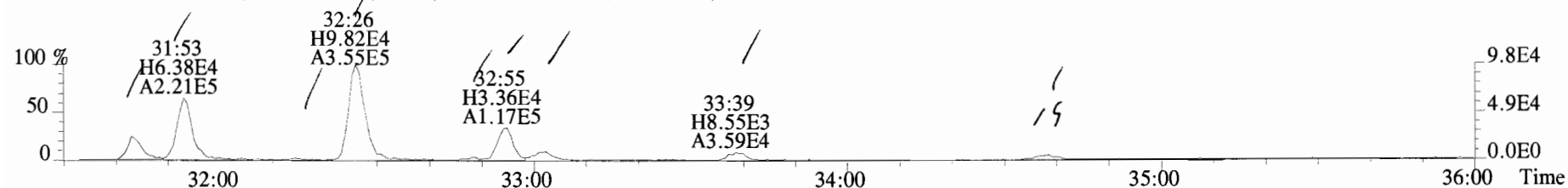
File:190626D2 #1-185 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0)



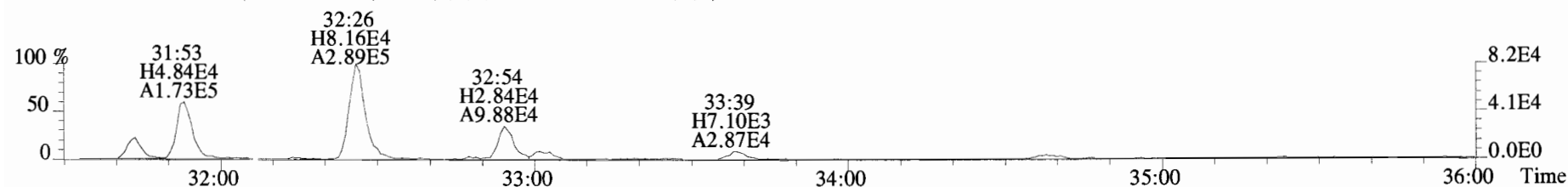
File:190626D2 #1-185 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0)



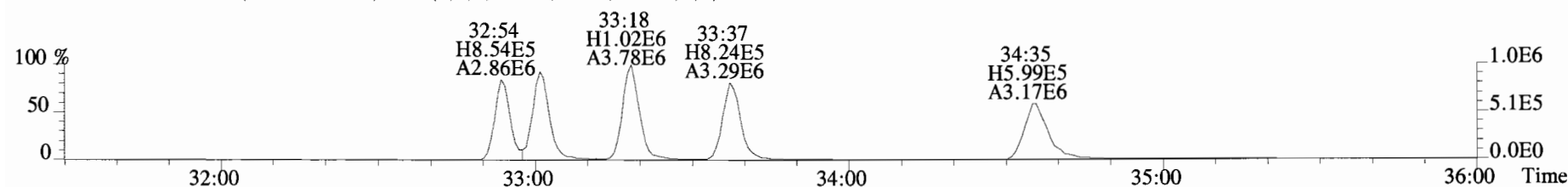
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
 373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



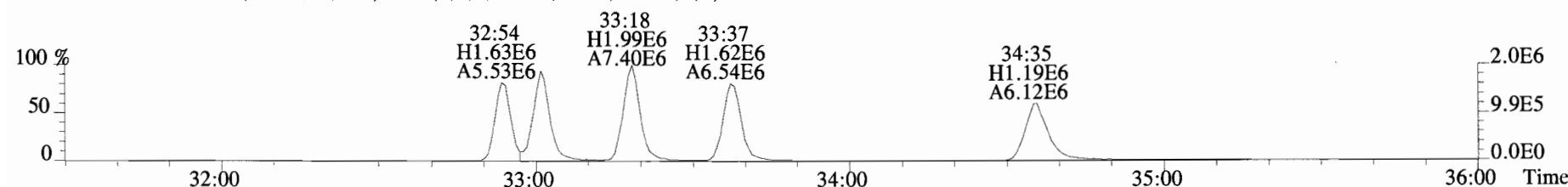
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



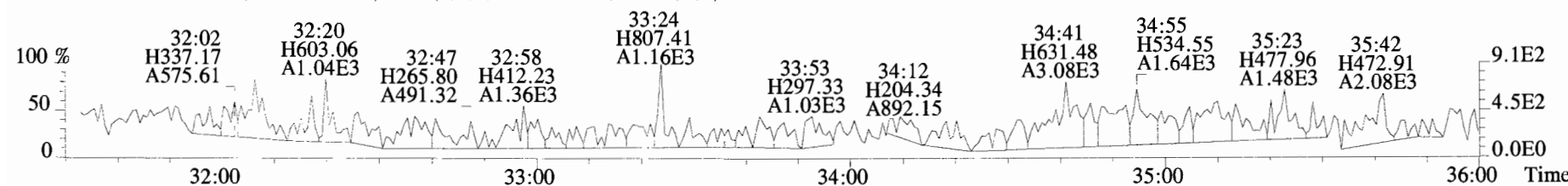
383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



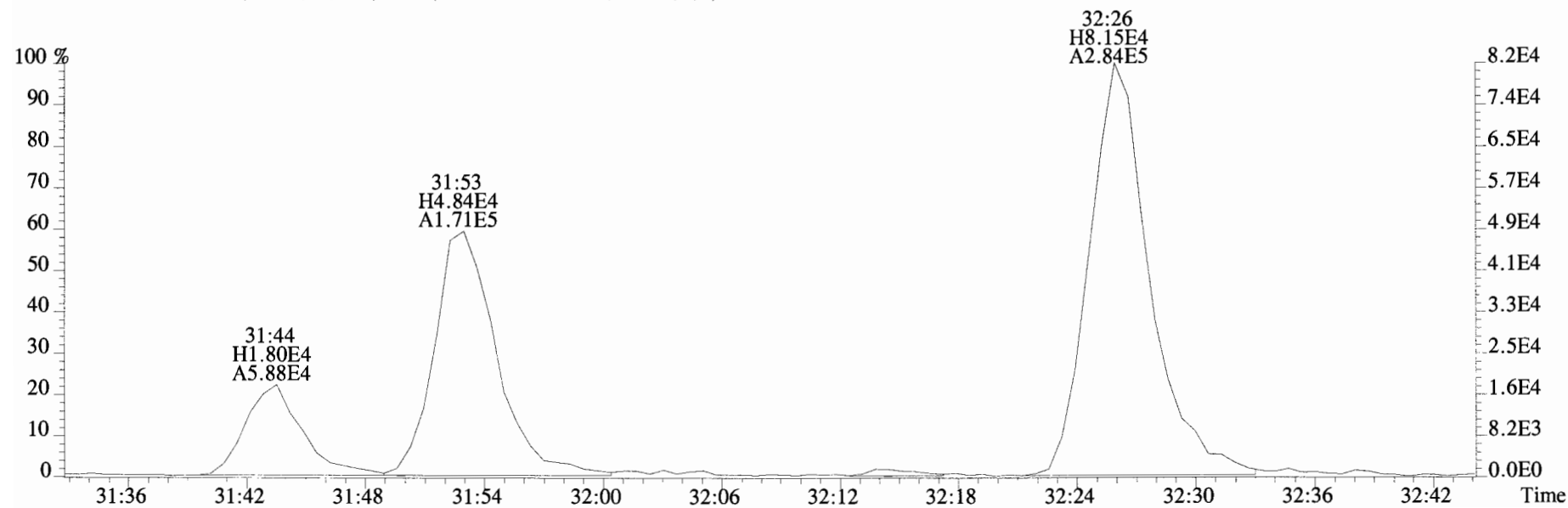
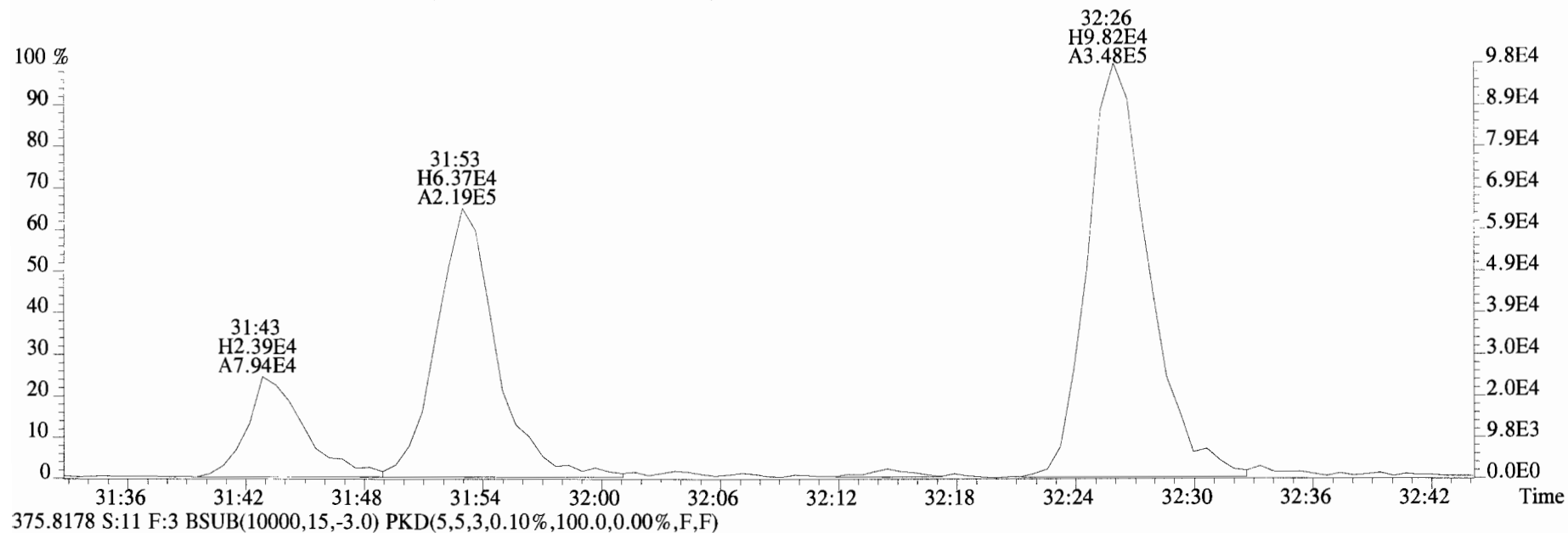
385.8610 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



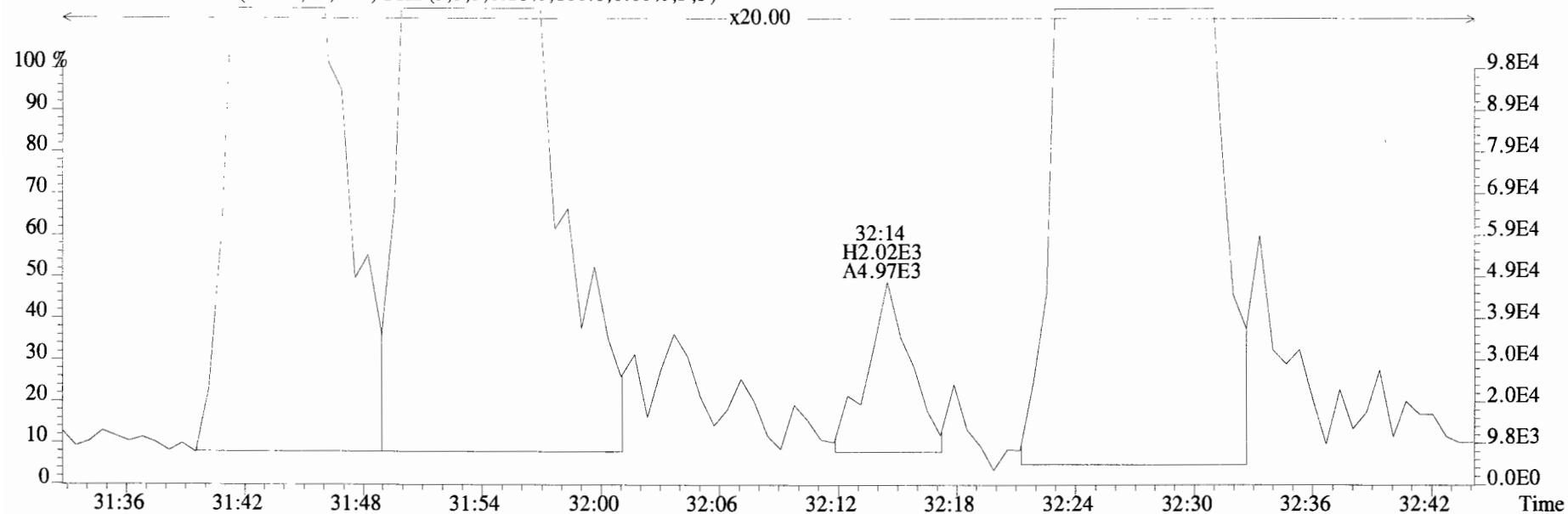
445.7555 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



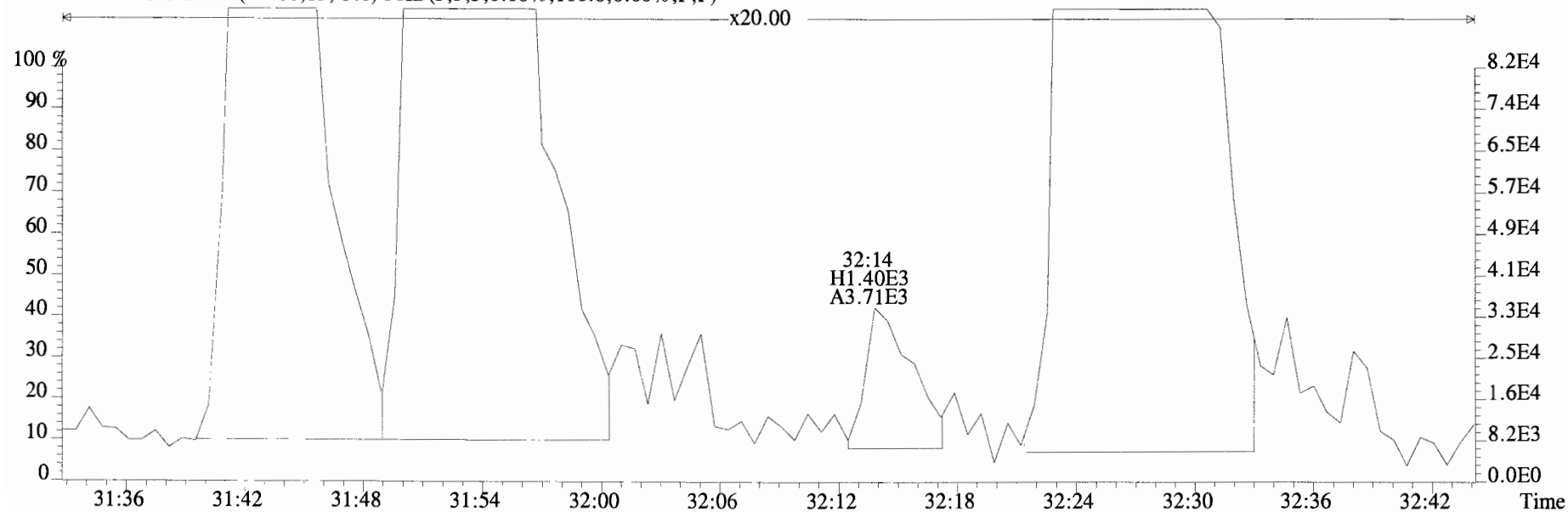
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



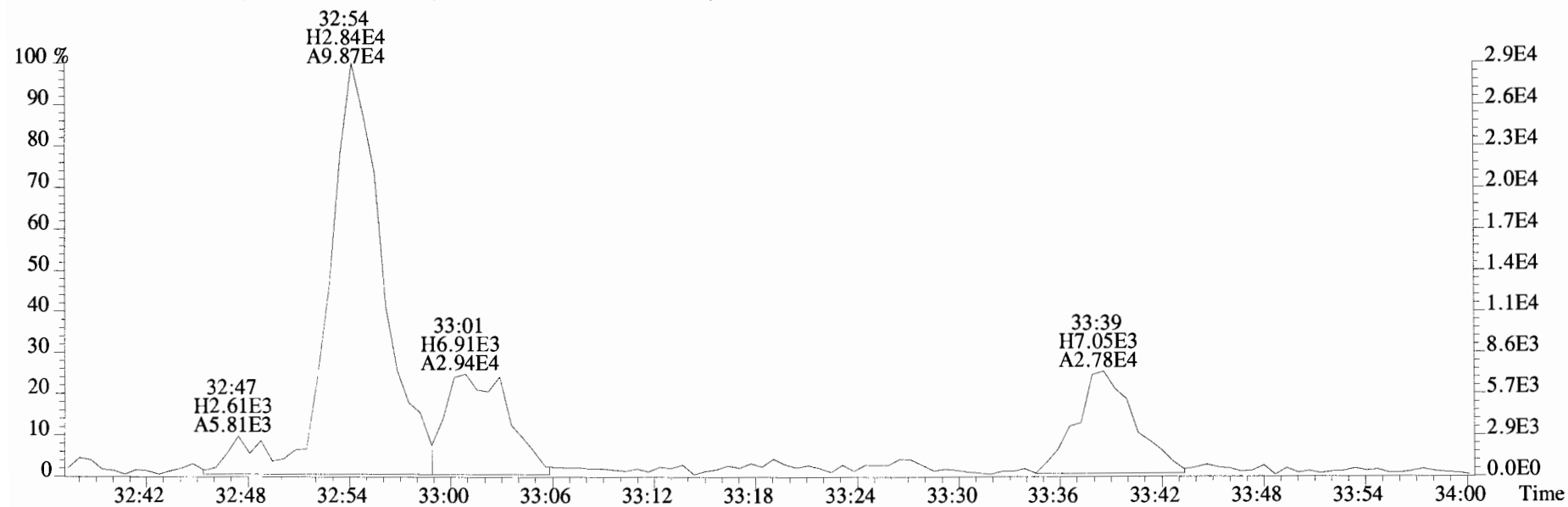
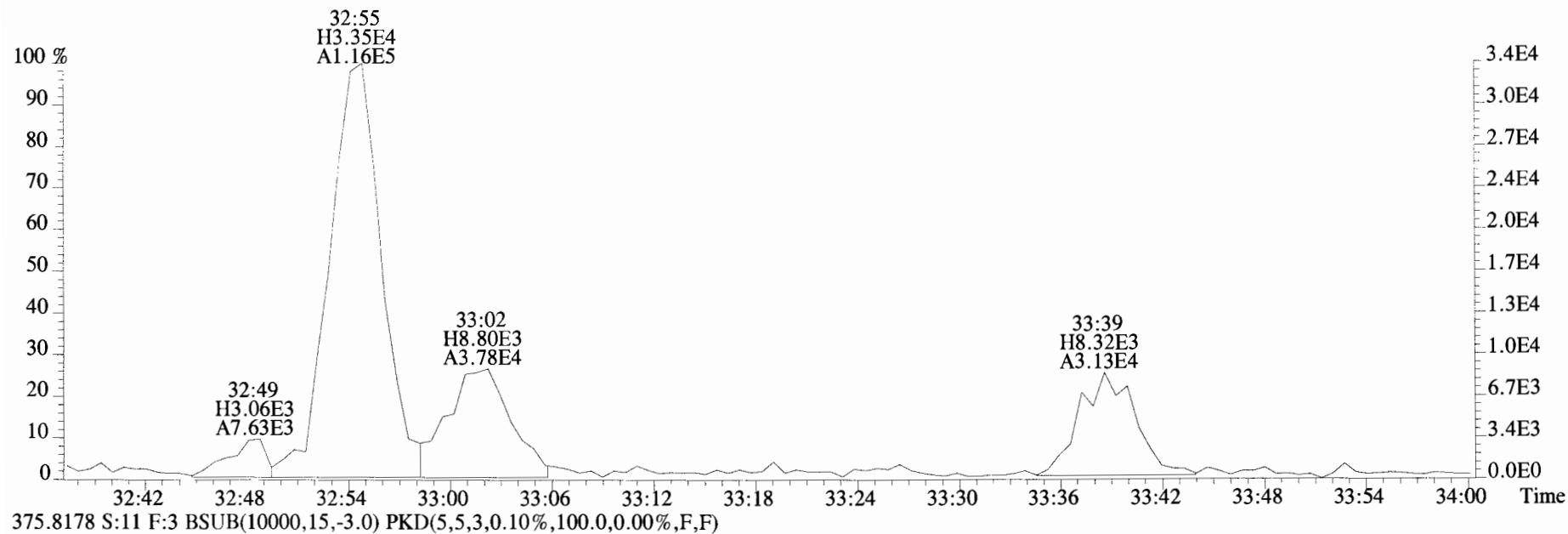
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



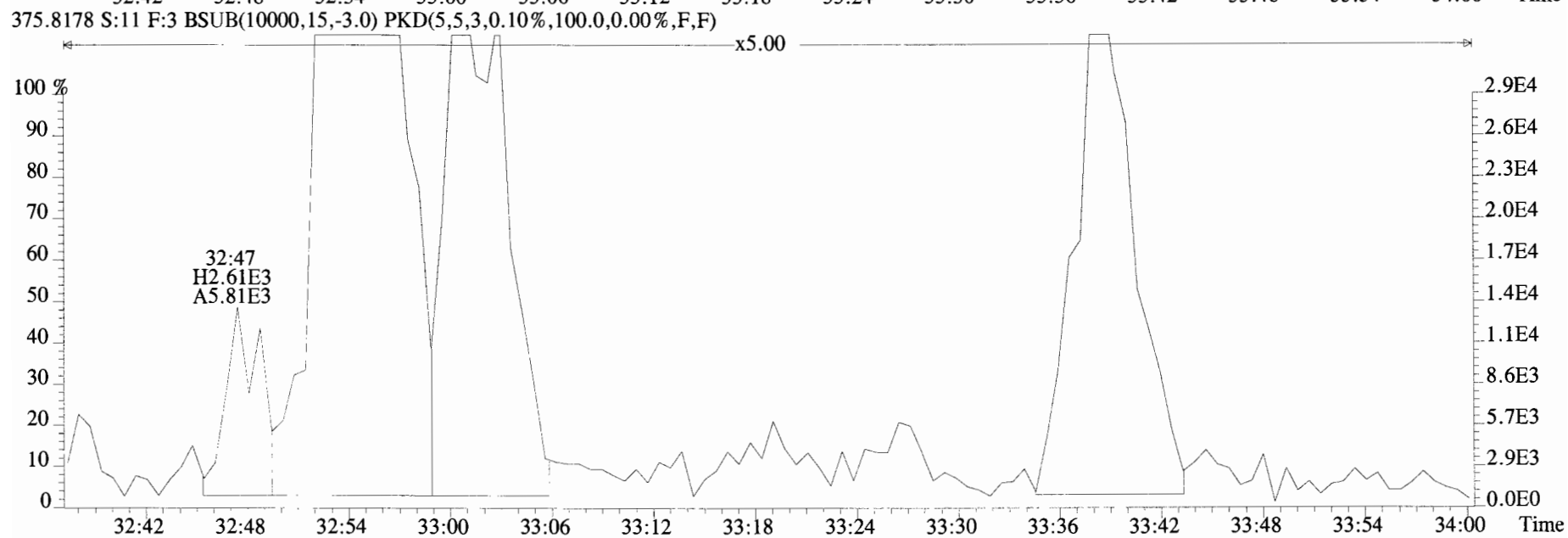
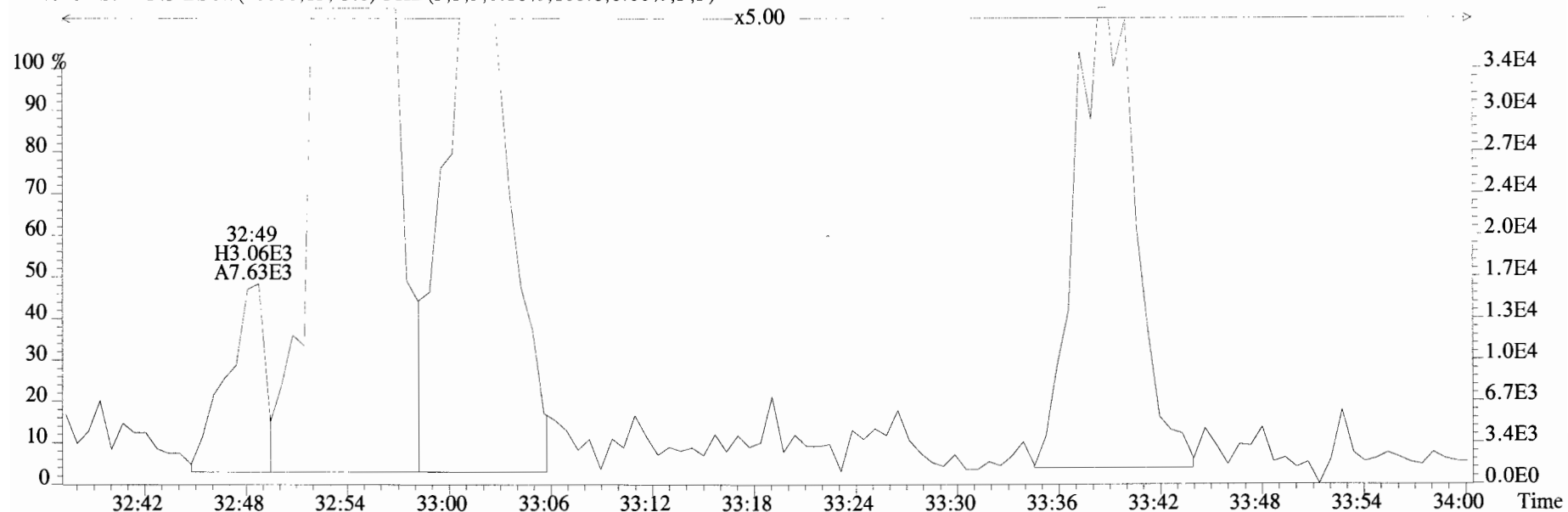
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



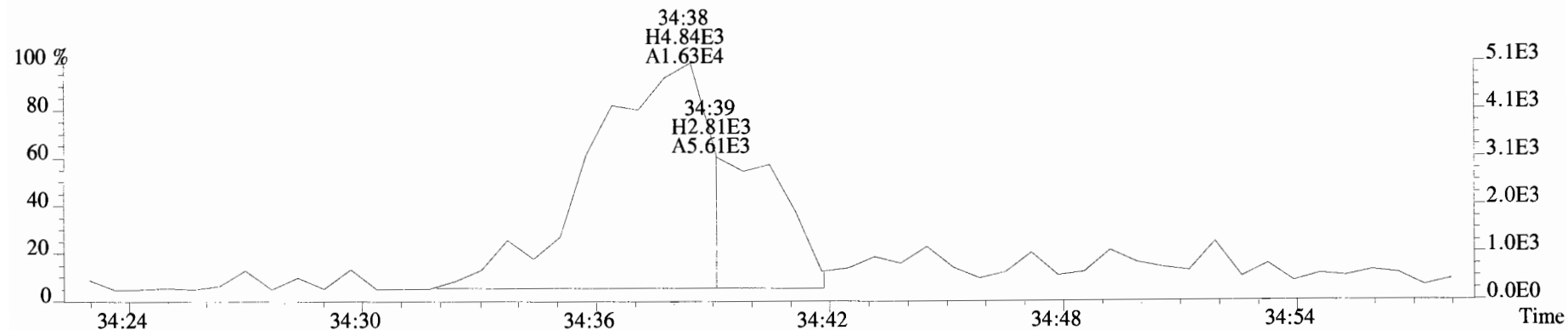
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



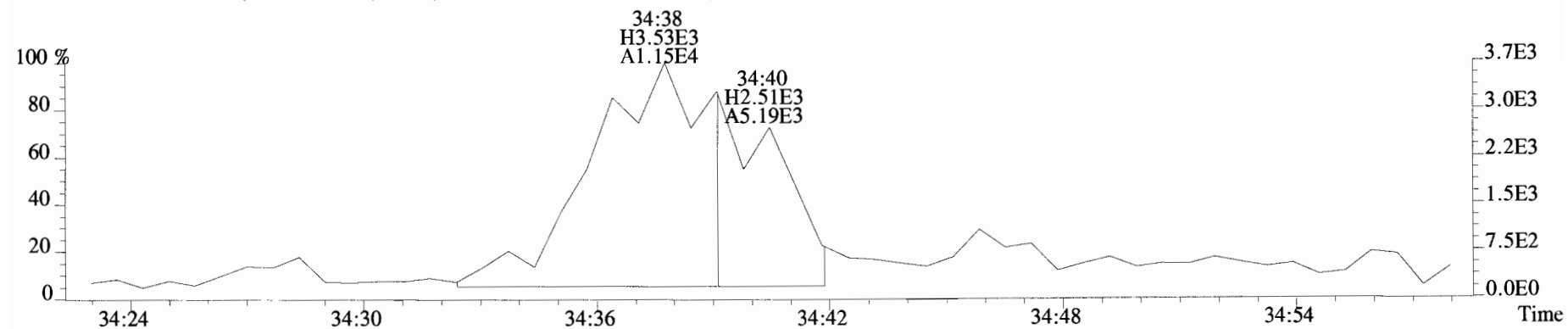
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
373.8207 S:11 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



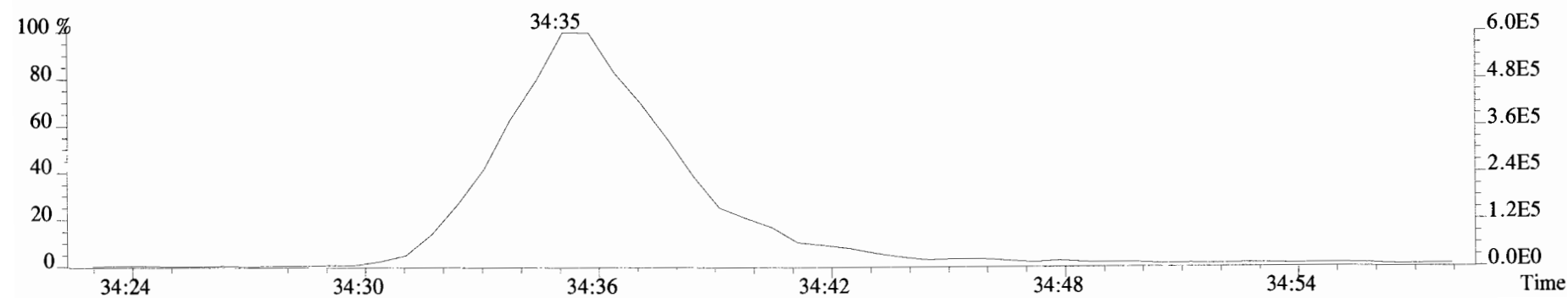
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



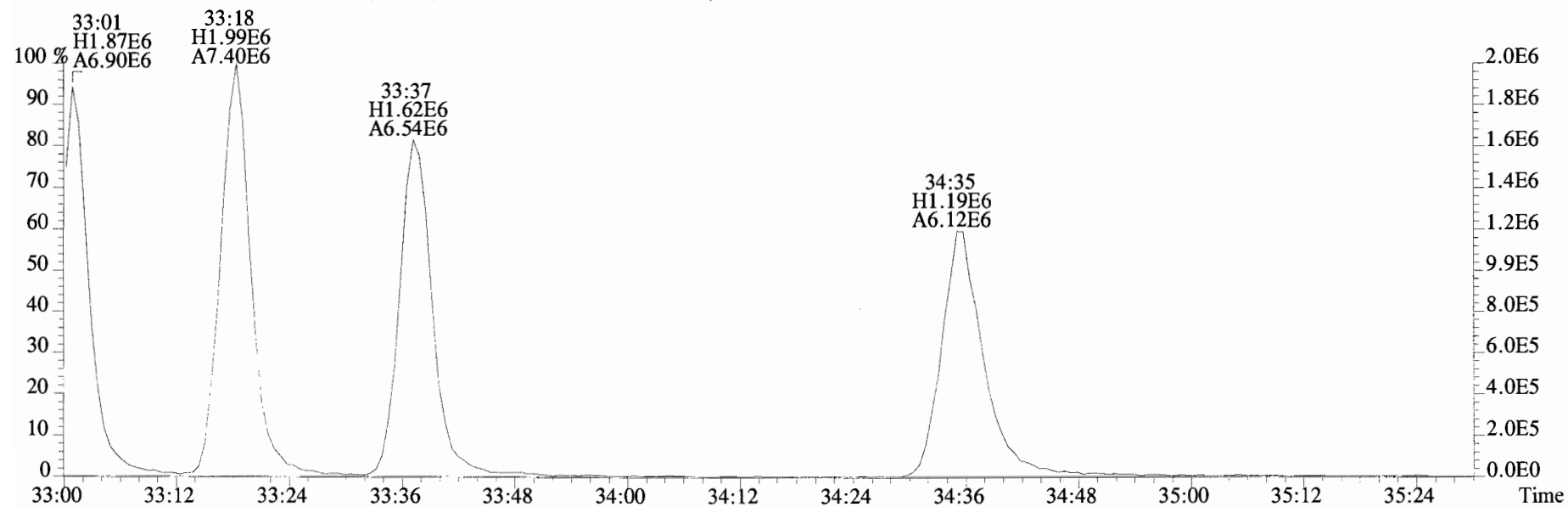
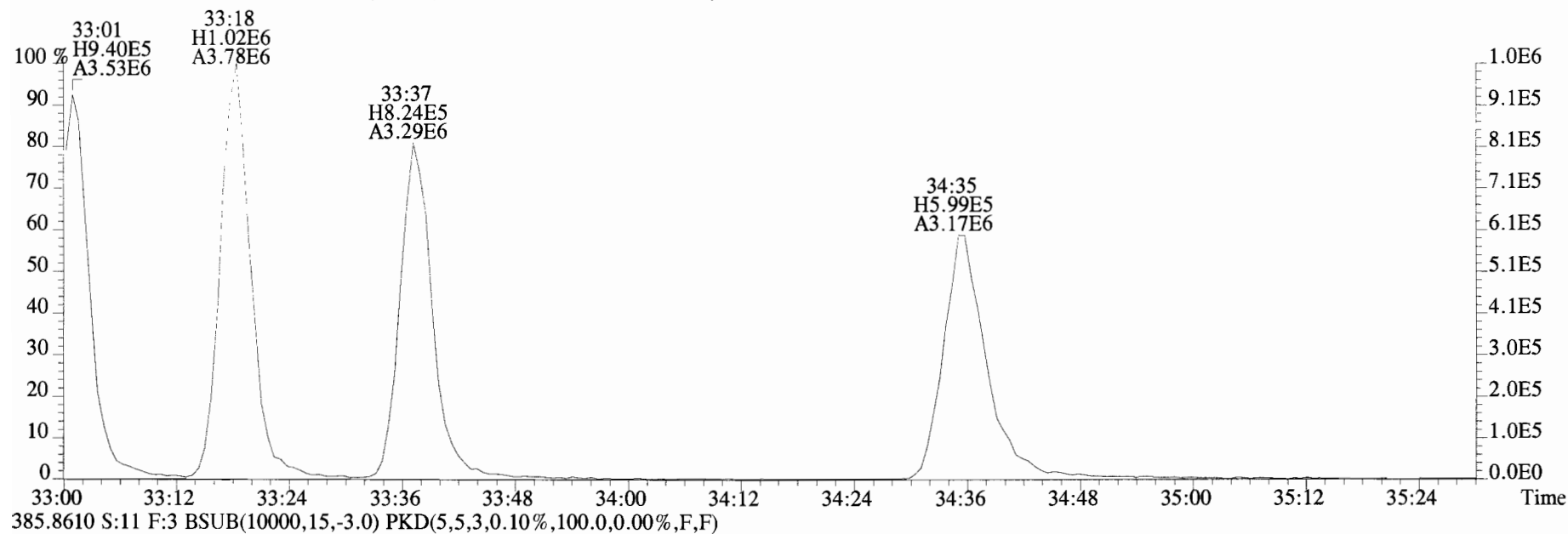
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



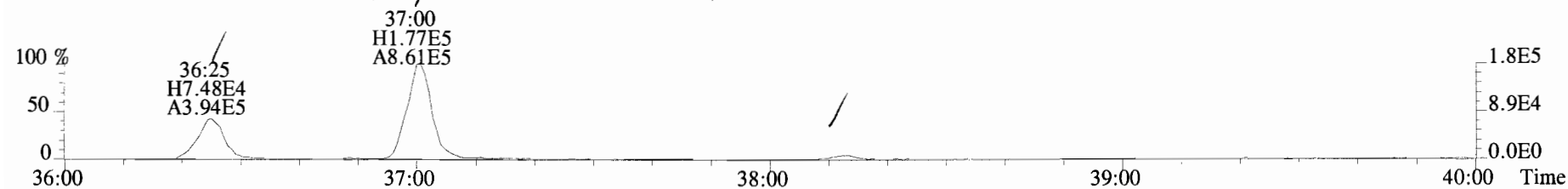
383.8639 S:11 F:3



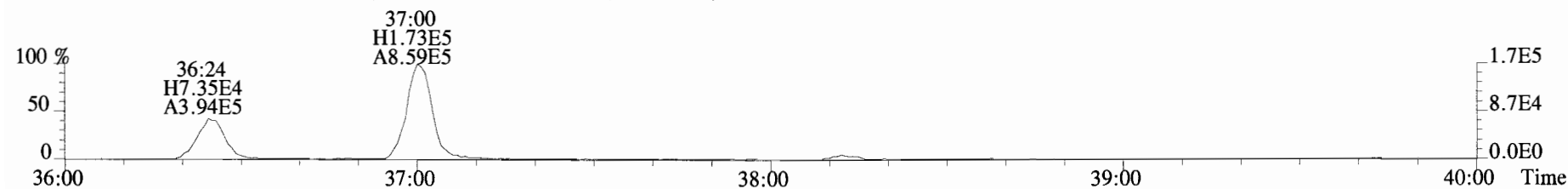
File:190626D2 #1-399 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



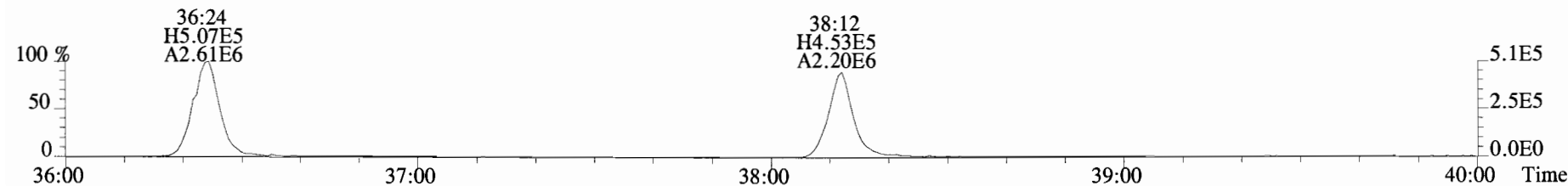
File:190626D2 #1-355 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD_DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



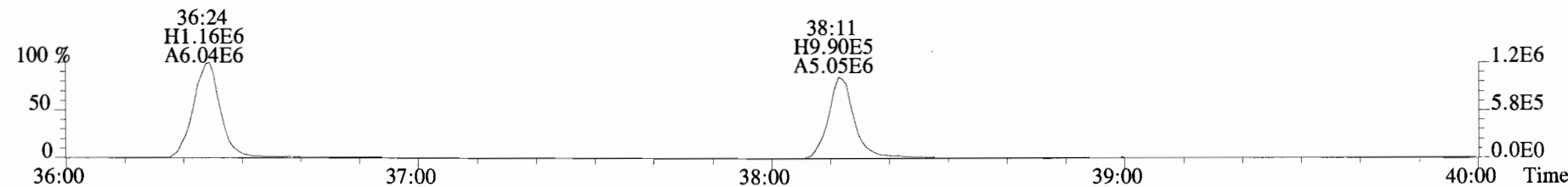
409.7788 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



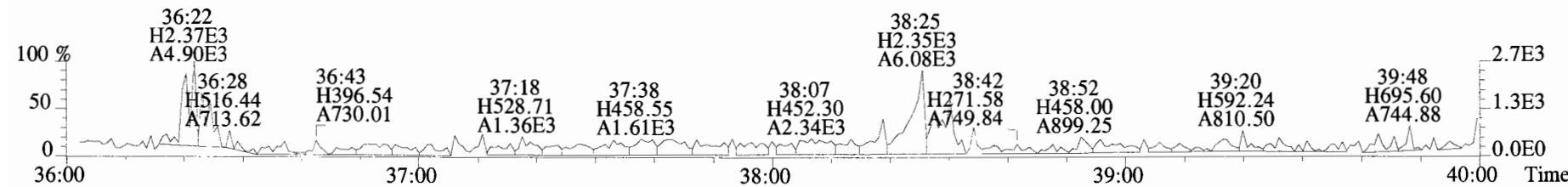
417.8253 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



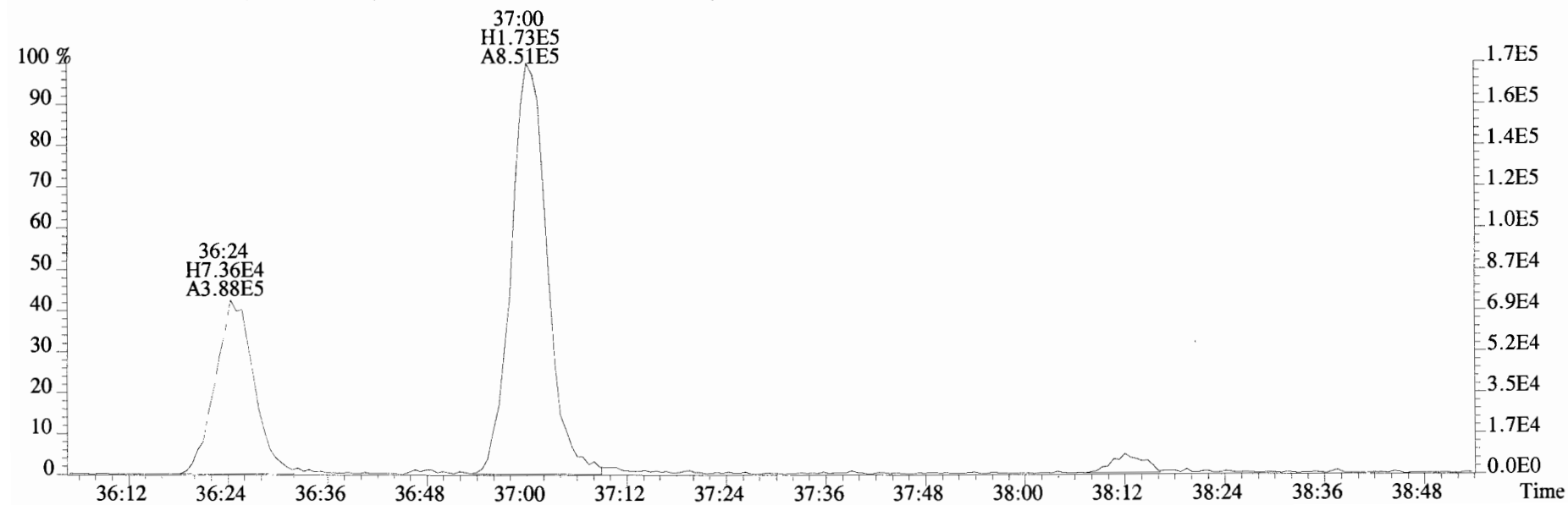
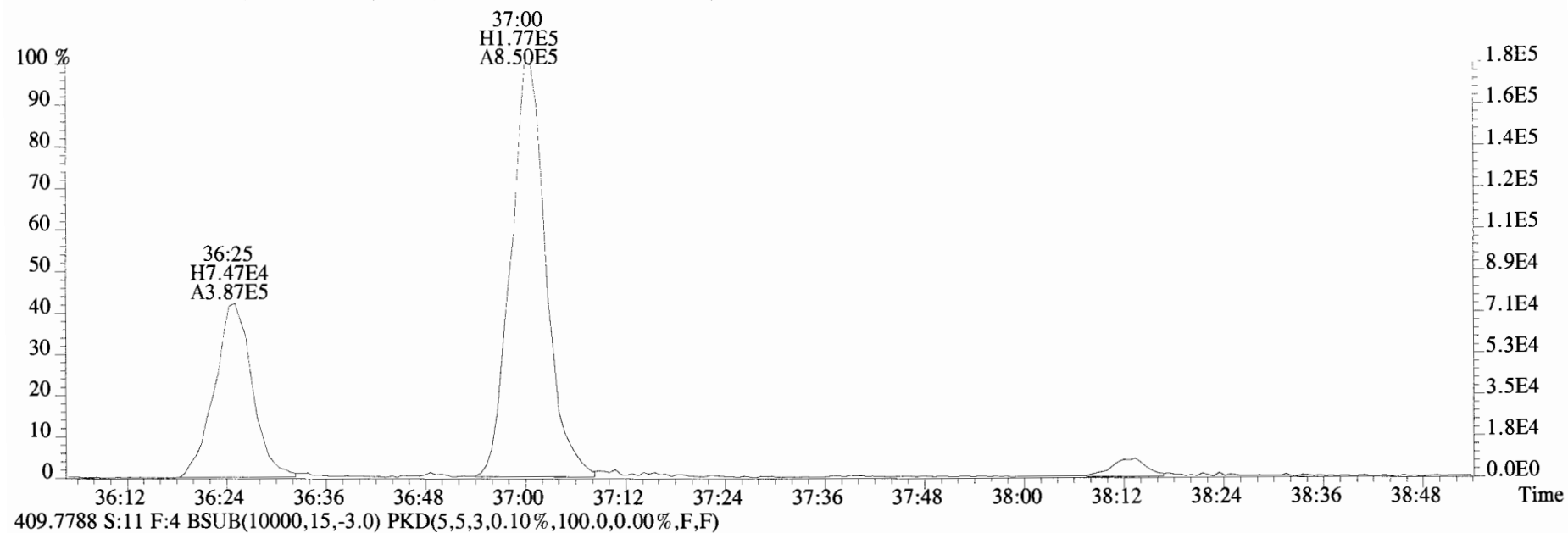
419.8220 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



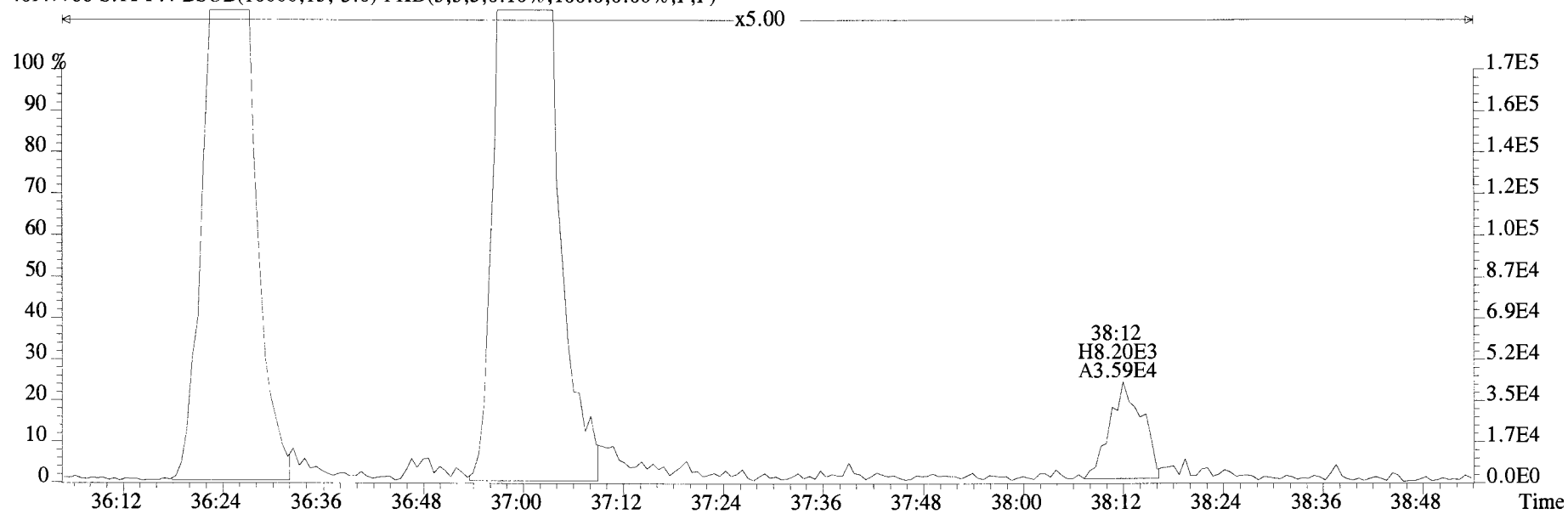
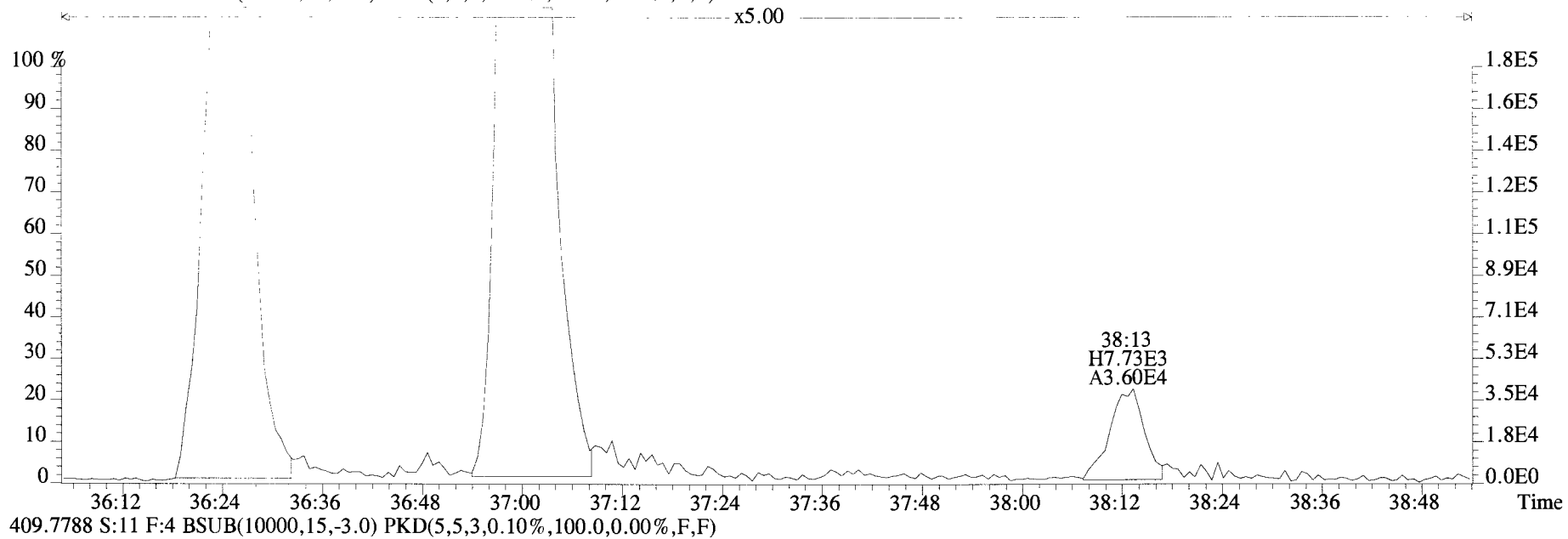
479.7165 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-355 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



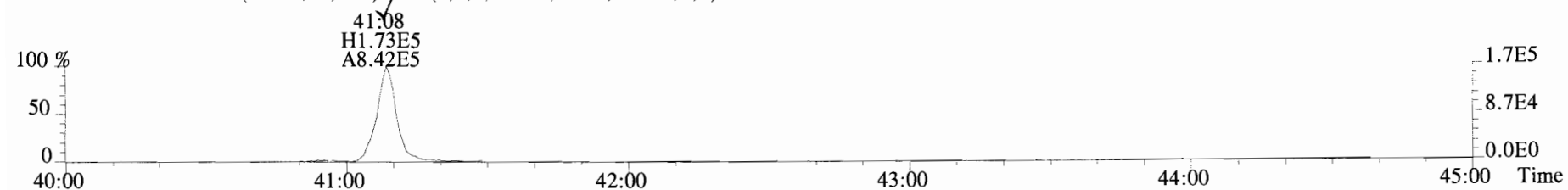
File:190626D2 #1-355 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



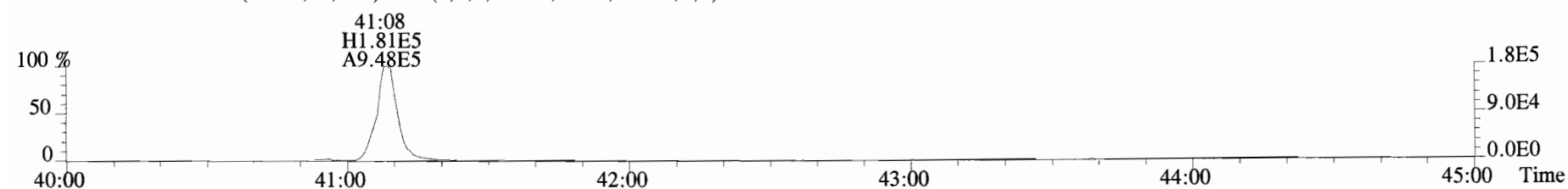
File:190626D2 #1-432 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE

Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5

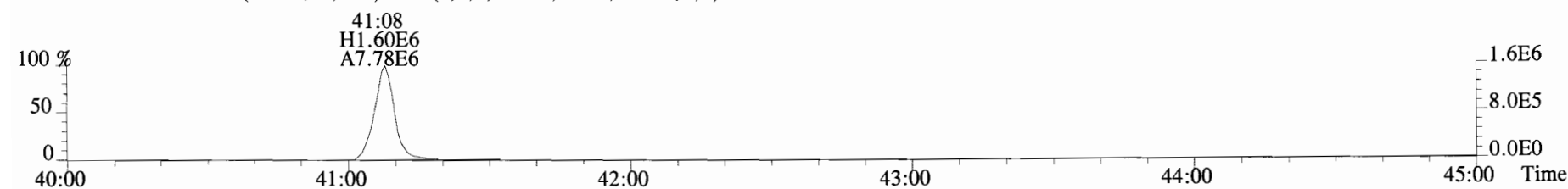
441.7428 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



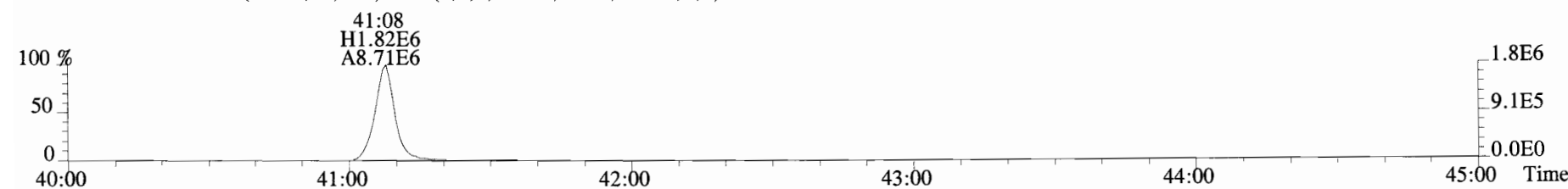
443.7398 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



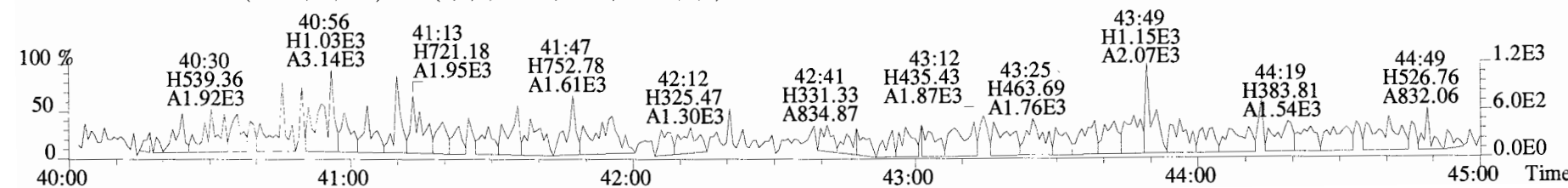
453.7831 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



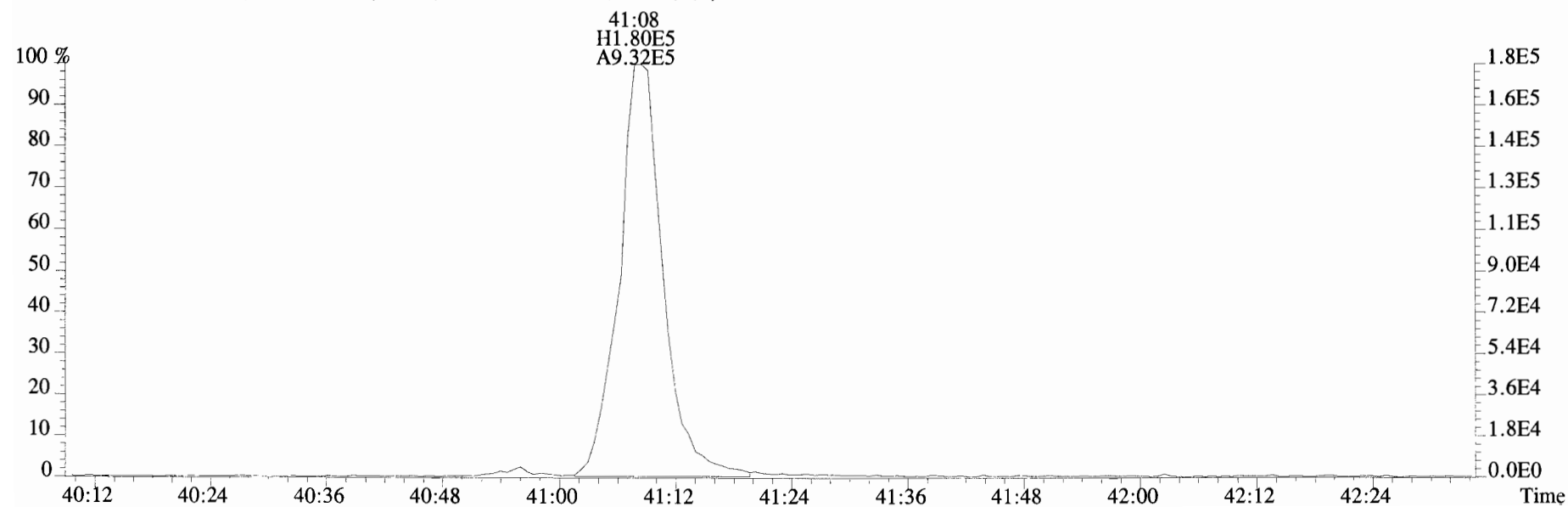
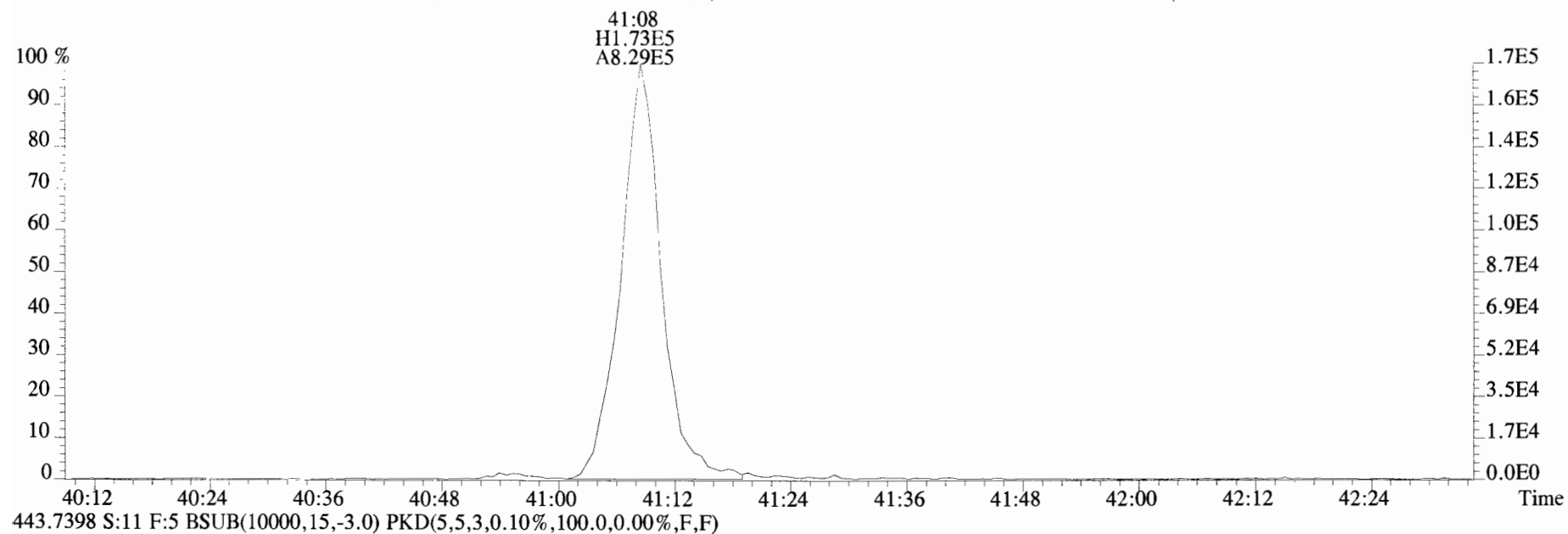
455.7801 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-432 Acq:27-JUN-2019 12:37:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 Text:1901246-01 T4-PDI2019-SC12-190521-01-03 9 Exp:OCDD DB5
441.7428 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	1.38e+04	0.58 n	0.90	26:03	0.71564		* 2.5		*	Total Tetra-Dioxins	4.07	5.41		*	*
	1,2,3,7,8-PeCDD	4.15e+04	0.59 y	0.87	30:31	2.1278		* 2.5		*	Total Penta-Dioxins	18.3	22.2		*	*
	1,2,3,4,7,8-HxCDD	1.52e+05	1.26 y	1.05	33:48	7.4459		* 2.5		*	Total Hexa-Dioxins	418	418		*	*
	1,2,3,6,7,8-HxCDD	7.87e+05	1.24 y	0.93	33:55	37.281		* 2.5		*	Total Hepta-Dioxins	4290	4290		*	*
	1,2,3,7,8,9-HxCDD	3.33e+05	1.23 y	0.96	34:13	15.507		* 2.5		*	Total Tetra-Furans	15.4	18.2		*	*
	1,2,3,4,6,7,8-HpCDD	4.56e+07	1.03 y	0.99	37:39	2305.9		* 2.5		*	Total Penta-Furans	32.223	36.005		*	*
	OCDD	3.03e+08	0.89 y	0.99	40:55	15824		* 2.5		*	Total Hexa-Furans	122	123		*	*
											Total Hepta-Furans	406	406		*	*
	2,3,7,8-TCDF	5.99e+04	0.74 y	0.94	25:18	2.5600	OK	* 2.5		*						
	1,2,3,7,8-PeCDF	7.55e+04	1.69 y	0.92	29:21	2.5720		* 2.5		*						
	2,3,4,7,8-PeCDF	8.69e+04	1.66 y	0.96	30:15	2.9821		* 2.5		*						
	1,2,3,4,7,8-HxCDF	2.90e+05	1.30 y	1.15	32:55	10.611		* 2.5		*						
	1,2,3,6,7,8-HxCDF	1.14e+05	1.32 y	1.04	33:03	3.9583		* 2.5		*						
	2,3,4,6,7,8-HxCDF	1.15e+05	1.28 y	1.10	33:40	3.9808		* 2.5		*						
	1,2,3,7,8,9-HxCDF	2.26e+04	1.15 y	1.03	34:37	0.94255		* 2.5		*						
	1,2,3,4,6,7,8-HpCDF	2.23e+06	1.04 y	1.06	36:25	98.749		* 2.5		*						
	1,2,3,4,7,8,9-HpCDF	1.71e+05	1.01 y	1.23	38:13	7.9490		* 2.5		*						
	OCDF	8.29e+06	0.89 y	0.94	41:09	443.59		* 2.5		*						
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	8.50e+06	0.78 y	1.11	26:02	269.25					67.7					
IS	13C-1,2,3,7,8-PeCDD	8.89e+06	0.64 y	0.98	30:31	319.14					80.3					
IS	13C-1,2,3,4,7,8-HxCDD	7.72e+06	1.25 y	0.68	33:48	383.59					96.5					
IS	13C-1,2,3,6,7,8-HxCDD	9.03e+06	1.25 y	0.84	33:54	359.99					90.6					
IS	13C-1,2,3,7,8,9-HxCDD	8.88e+06	1.26 y	0.81	34:13	366.86					92.3					
IS	13C-1,2,3,4,6,7,8-HpCDD	7.95e+06	1.03 y	0.69	37:39	389.01					97.9					
IS	13C-OCDD	1.55e+07	0.91 y	0.62	40:54	830.37					104					
IS	13C-2,3,7,8-TCDF	9.87e+06	0.79 y	1.05	25:17	214.07					53.9					
IS	13C-1,2,3,7,8-PeCDF	1.27e+07	1.61 y	0.95	29:21	302.55					76.1					
IS	13C-2,3,4,7,8-PeCDF	1.21e+07	1.68 y	0.94	30:15	295.07					74.2					
IS	13C-1,2,3,4,7,8-HxCDF	9.41e+06	0.51 y	0.86	32:54	368.49					92.7					
IS	13C-1,2,3,6,7,8-HxCDF	1.10e+07	0.53 y	1.02	33:02	362.06					91.1					
IS	13C-2,3,4,6,7,8-HxCDF	1.04e+07	0.50 y	0.95	33:39	367.76					92.5					
IS	13C-1,2,3,7,8,9-HxCDF	9.24e+06	0.52 y	0.87	34:37	357.64					90.0					
IS	13C-1,2,3,4,6,7,8-HpCDF	8.44e+06	0.45 y	0.81	36:25	350.35					88.1					
IS	13C-1,2,3,4,7,8,9-HpCDF	6.99e+06	0.45 y	0.63	38:13	371.08					93.4					
IS	13C-OCDF	1.58e+07	0.90 y	0.78	41:09	677.72					85.2					
C/Up	37Cl-2,3,7,8-TCDD	3.70e+06		1.22	26:03	106.66					67.1					
RS/RT	13C-1,2,3,4-TCDD	1.13e+07	0.78 y	1.00	25:27	397.50										
RS	13C-1,2,3,4-TCDF	1.74e+07	0.80 y	1.00	24:02	397.50										
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.19e+07	0.51 y	1.00	33:19	397.50										

Integrations
by
Analyst: DB

Reviewed
by
Analyst: CT

Date: 7/26/19

Date: 08/08/19

Totals class: TCDD EMPC

Entry #: 19

Run: 17

File: 190626D2

S: 12 I: 1 F: 1

Acquired: 27-JUN-19 13:25:33

Processed: 27-JUN-19 17:02:09

Total Concentration: 5.4073

Unnamed Concentration: 4.692

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
22:40	1.296e+04	1.974e+04	0.66 y	3.270e+04	1.6979
23:00	7.607e+03	6.777e+03	1.12 n	1.199e+04	0.62284
24:34	4.198e+03	5.566e+03	0.75 y	9.764e+03	0.50698
25:49	1.541e+04	2.049e+04	0.75 y	3.590e+04	1.8639
26:03	5.996e+03	1.040e+04	0.58 n	1.378e+04	0.71564

2,3,7,8-TCDD

Totals class: PeCDD EMPC

Entry #: 21

Run: 17

File: 190626D2

S: 12 I: 1 F: 2

Acquired: 27-JUN-19 13:25:33

Processed: 27-JUN-19 17:02:09

Total Concentration: 22.175

Unnamed Concentration: 20.047

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:28	4.987e+04	8.464e+04	0.59 y	1.345e+05	6.8980
28:55	1.727e+04	2.772e+04	0.62 y	4.499e+04	2.3072
29:22	2.426e+04	3.398e+04	0.71 y	5.824e+04	2.9866
29:31	1.860e+04	2.311e+04	0.80 n	3.767e+04	1.9319
29:37	1.011e+04	1.954e+04	0.52 n	2.614e+04	1.3407
29:49	2.050e+04	3.631e+04	0.56 y	5.681e+04	2.9132
30:07	3.235e+03	5.892e+03	0.55 y	9.127e+03	0.46804
30:31	1.543e+04	2.607e+04	0.59 y	4.149e+04	2.1278
30:37	4.289e+03	6.448e+03	0.67 y	1.074e+04	0.55059
30:53	6.383e+03	7.785e+03	0.82 n	1.269e+04	0.65072

1,2,3,7,8-PeCDD

Totals class: HxCDD EMPC

Entry #: 23

Run: 17

File: 190626D2

S: 12 I: 1 F: 3

Acquired: 27-JUN-19 13:25:33

Processed: 27-JUN-19 17:02:09

Total Concentration: 418.28

Unnamed Concentration: 358.042

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
32:16	2.061e+06	1.730e+06	1.19	y	3.791e+06	180.80
32:50	1.526e+05	1.226e+05	1.25	y	2.752e+05	13.122
33:06	1.718e+06	1.379e+06	1.25	y	3.097e+06	147.71
33:13	1.087e+05	8.072e+04	1.35	y	1.894e+05	9.0319
33:48	8.450e+04	6.733e+04	1.26	y	1.518e+05	7.4459
33:55	4.361e+05	3.512e+05	1.24	y	7.873e+05	37.281
34:06	8.952e+04	6.523e+04	1.37	y	1.547e+05	7.3796
34:13	1.840e+05	1.492e+05	1.23	y	3.332e+05	15.507

Totals class: HpCDD EMPC

Entry #: 25

Run: 17

File: 190626D2

S: 12 I: 1 F: 4

Acquired: 27-JUN-19 13:25:33

Processed: 27-JUN-19 17:02:09

Total Concentration: 4287.3

Unnamed Concentration: 1981.326

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:48	1.989e+07	1.929e+07	1.03 y	3.918e+07	1981.3
37:39	2.316e+07	2.244e+07	1.03 y	4.560e+07	2305.9 1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC

Entry #: 27

Run: 17

File: 190626D2

S: 12 I: 1 F: 1

Acquired: 27-JUN-19 13:25:33

Processed: 27-JUN-19 17:02:09

Total Concentration: 18.156

Unnamed Concentration: 15.596

RT	m1 Resp	m2 Resp	RA		Resp Concentration		Name
21:06	9.087e+03	1.059e+04	0.86	y	1.967e+04	0.84037	
21:46	3.479e+04	4.083e+04	0.85	y	7.562e+04	3.2302	
22:18	1.034e+04	1.246e+04	0.83	y	2.280e+04	0.97403	
22:40	1.735e+04	2.190e+04	0.79	y	3.926e+04	1.6769	
23:04	1.426e+04	1.510e+04	0.94	n	2.673e+04	1.1416	
23:12	5.563e+03	7.822e+03	0.71	y	1.339e+04	0.57178	
23:21	6.811e+03	9.451e+03	0.72	y	1.626e+04	0.69467	
23:50	4.781e+03	5.883e+03	0.81	y	1.066e+04	0.45549	
24:01	2.167e+04	2.086e+04	1.04	n	3.693e+04	1.5775	
24:29	2.126e+04	3.056e+04	0.70	y	5.182e+04	2.2136	
25:11	5.931e+03	8.539e+03	0.69	y	1.447e+04	0.61813	
25:18	2.548e+04	3.445e+04	0.74	y	5.993e+04	2.5600	2,3,7,8-TCDF
25:37	8.607e+03	1.131e+04	0.76	y	1.991e+04	0.85061	
27:02	7.988e+03	9.593e+03	0.83	y	1.758e+04	0.75102	

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 17 File: 190626D2 S: 12 I: 1 F: 1
Acquired: 27-JUN-19 13:25:33 Processed: 27-JUN-19 17:02:09

Total Concentration: 14.818 Unnamed Concentration: 14.818

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:00	2.618e+05	1.718e+05	1.52 y	4.336e+05	14.818

Totals class: PeCDF EMPC

Entry #: 31

Run: 17

File: 190626D2

S: 12 I: 1 F: 2

Acquired: 27-JUN-19 13:25:33

Processed: 27-JUN-19 17:02:09

Total Concentration: 21.188

Unnamed Concentration: 15.634

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
28:18	1.839e+04	1.514e+04	1.21	n	3.025e+04	1.0338
28:26	1.543e+05	9.877e+04	1.56	y	2.531e+05	8.6492
28:59	4.480e+04	3.070e+04	1.46	y	7.551e+04	2.5804
29:10	1.149e+04	6.690e+03	1.72	y	1.818e+04	0.62132
29:21	4.745e+04	2.807e+04	1.69	y	7.552e+04	2.5720
29:34	3.524e+04	1.760e+04	2.00	n	4.489e+04	1.5341
30:08	8.893e+03	3.221e+03	2.76	n	8.213e+03	0.28068
30:15	5.420e+04	3.272e+04	1.66	y	8.692e+04	2.9821
30:19	2.440e+04	1.072e+04	2.28	n	2.733e+04	0.93398

Totals class: HxCDF EMPC

Entry #: 33

Run: 17

File: 190626D2

S: 12 I: 1 F: 3

Acquired: 27-JUN-19 13:25:33

Processed: 27-JUN-19 17:02:09

Total Concentration: 123.21

Unnamed Concentration: 103.717

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
31:45	1.436e+05	1.209e+05	1.19 y	2.645e+05	9.7285	
31:54	4.224e+05	3.523e+05	1.20 y	7.747e+05	28.494	
32:15	8.004e+03	7.062e+03	1.13 y	1.507e+04	0.55415	
32:27	9.368e+05	7.804e+05	1.20 y	1.717e+06	63.160	
32:48	1.418e+04	1.212e+04	1.17 y	2.629e+04	0.96709	
32:55	1.638e+05	1.259e+05	1.30 y	2.897e+05	10.611	1,2,3,4,7,8-HxCDF
33:03	6.481e+04	4.917e+04	1.32 y	1.140e+05	3.9583	1,2,3,6,7,8-HxCDF
33:40	6.440e+04	5.017e+04	1.28 y	1.146e+05	3.9808	2,3,4,6,7,8-HxCDF
34:37	1.210e+04	1.048e+04	1.15 y	2.258e+04	0.94255	1,2,3,7,8,9-HxCDF
34:40	1.545e+04	9.862e+03	1.57 n	2.209e+04	0.81258	

Totals class: HpCDF EMPC

Entry #: 35

Run: 17

File: 190626D2

S: 12 I: 1 F: 4

Acquired: 27-JUN-19 13:25:33

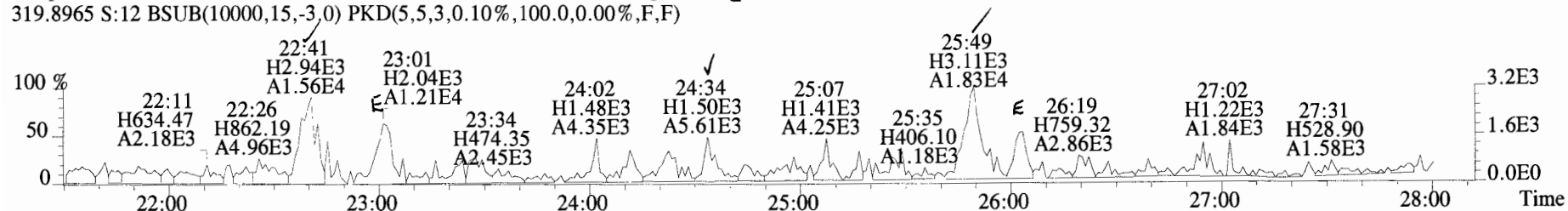
Processed: 27-JUN-19 17:02:09

Total Concentration: 406.39

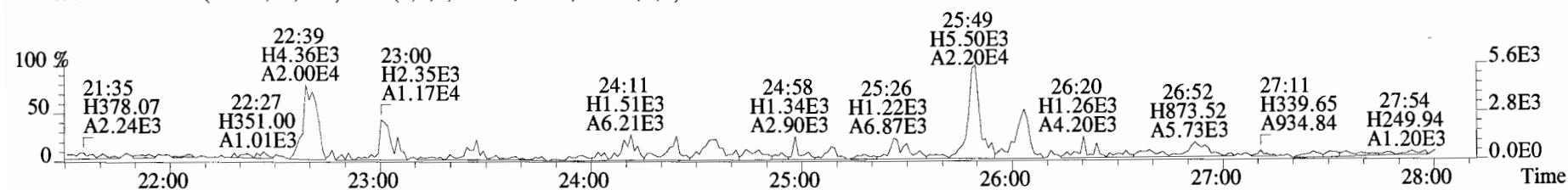
Unnamed Concentration: 299.691

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
36:25	1.138e+06	1.094e+06	1.04 y	2.232e+06	98.749	1,2,3,4,6,7,8-HpCDF
36:48	2.637e+04	2.620e+04	1.01 y	5.257e+04	2.3875	
37:00	3.303e+06	3.244e+06	1.02 y	6.547e+06	297.30	
38:13	8.627e+04	8.500e+04	1.01 y	1.713e+05	7.9490	1,2,3,4,7,8,9-HpCDF

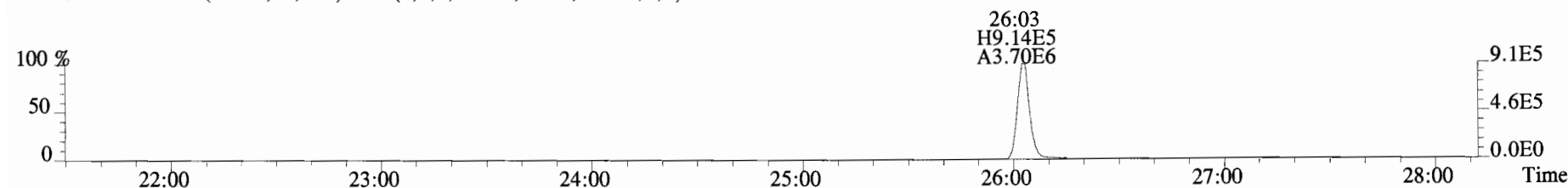
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



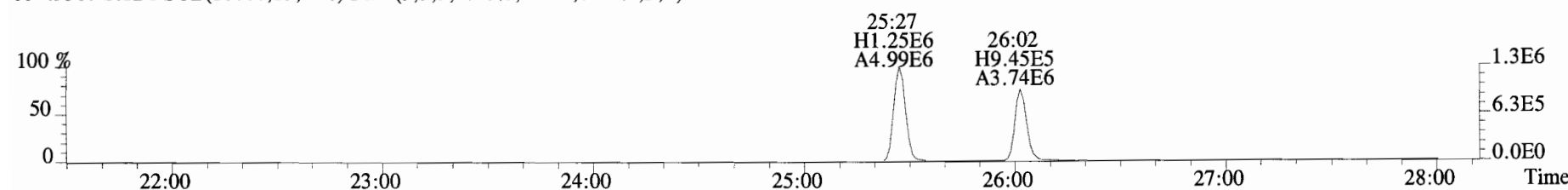
321.8936 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



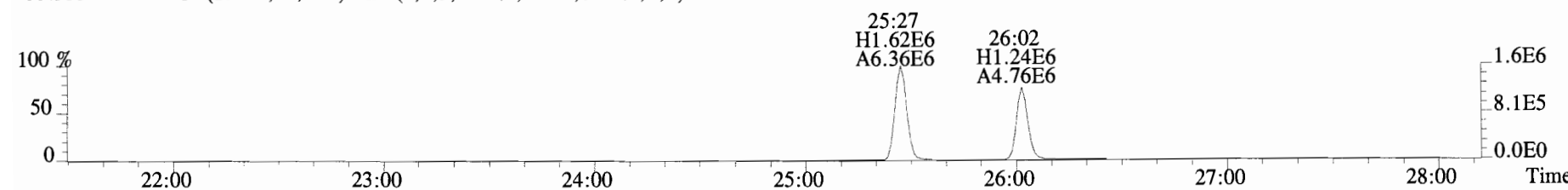
327.8847 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



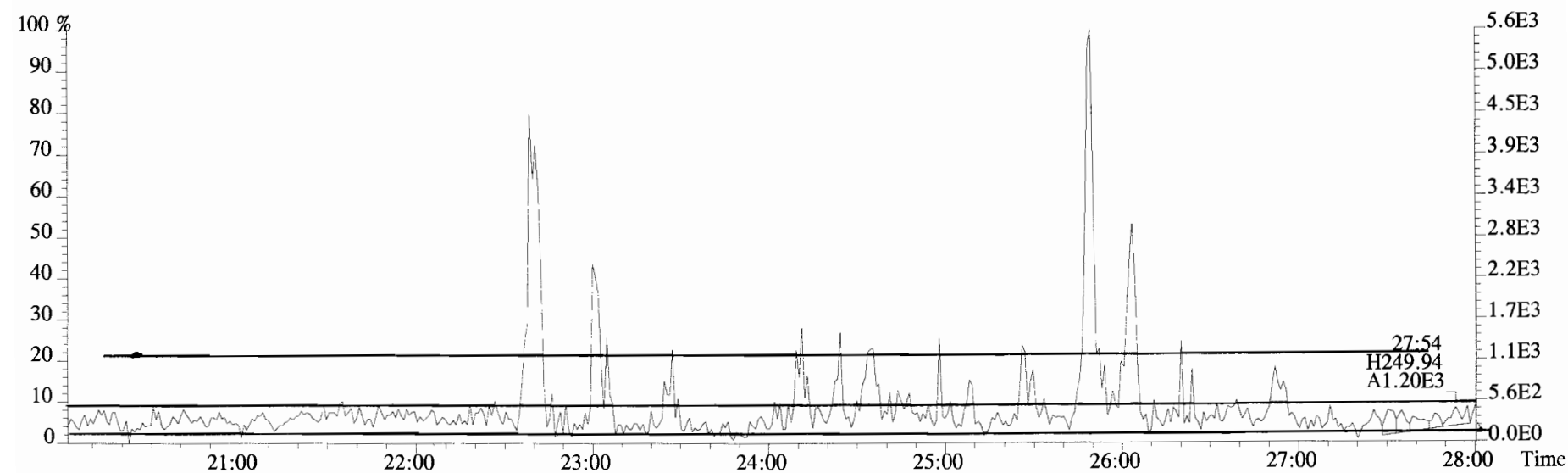
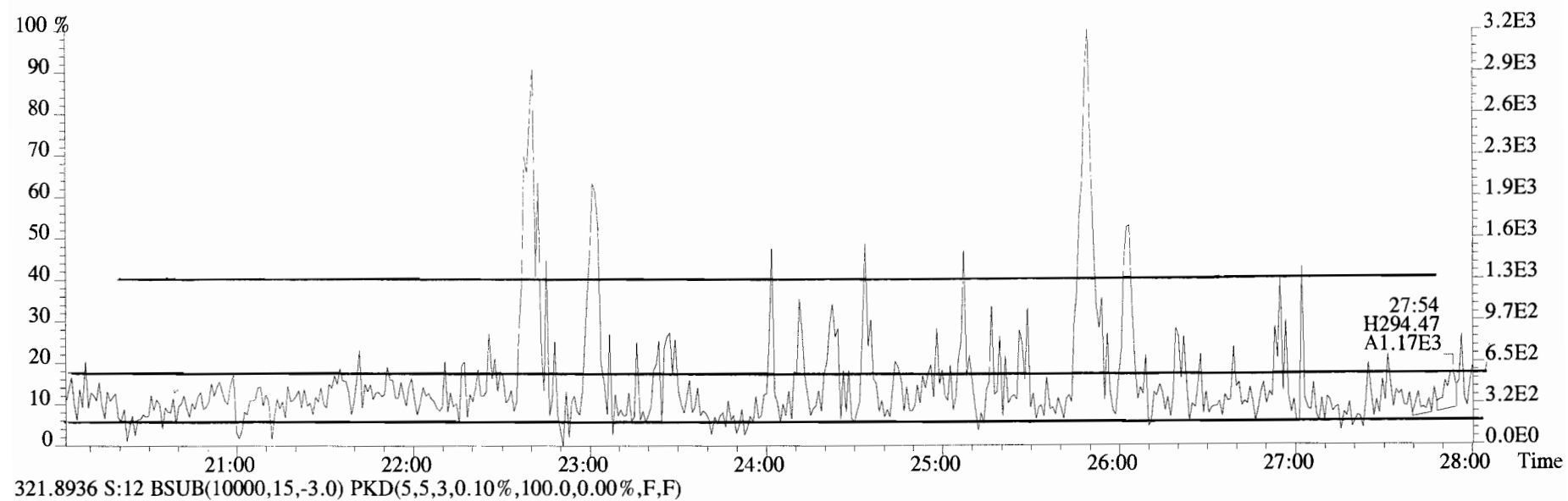
331.9368 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



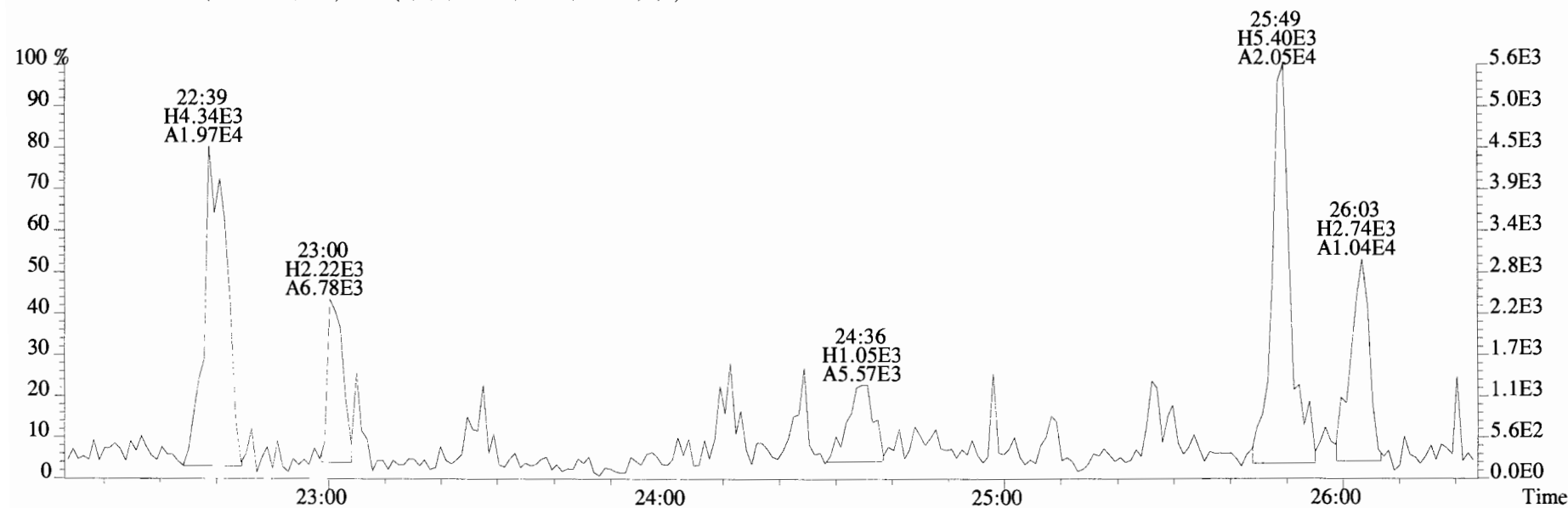
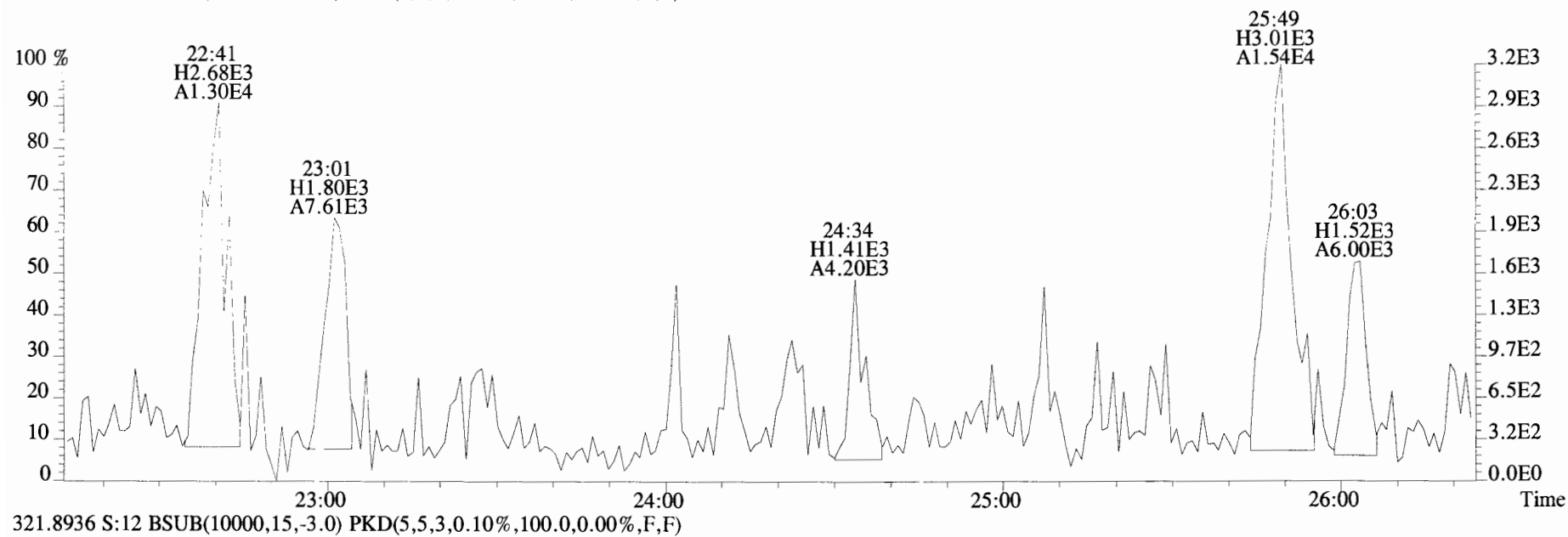
333.9339 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



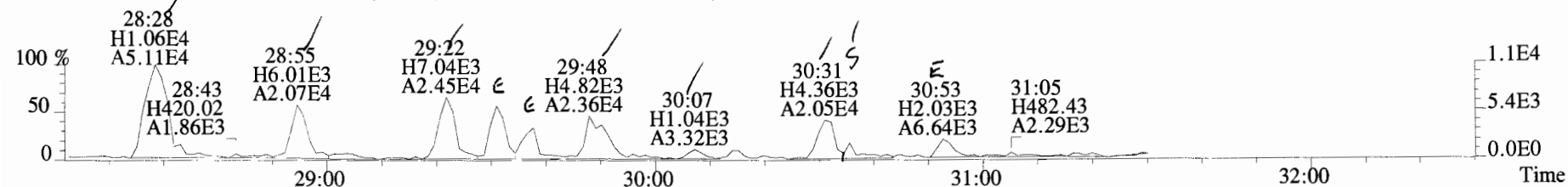
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



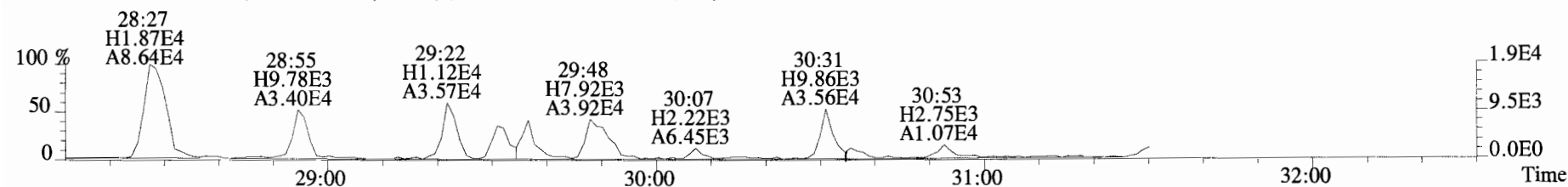
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



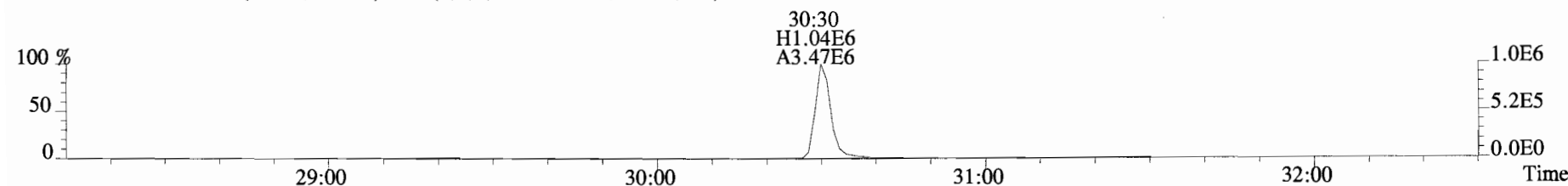
File:190626D2 #1-184 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



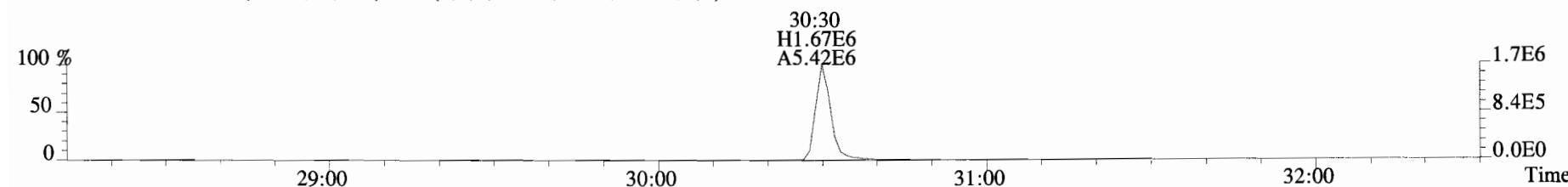
355.8546 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



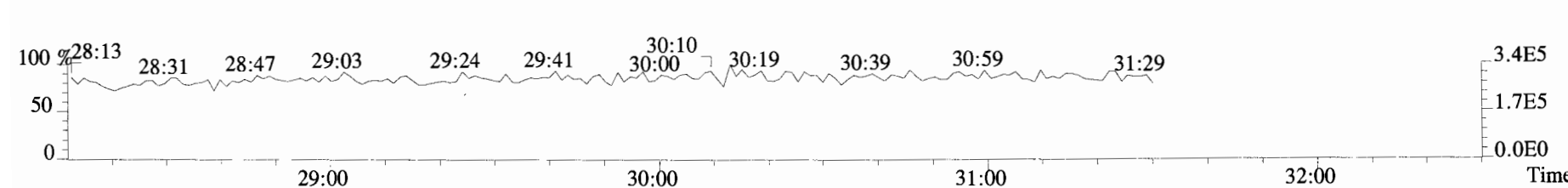
365.8978 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



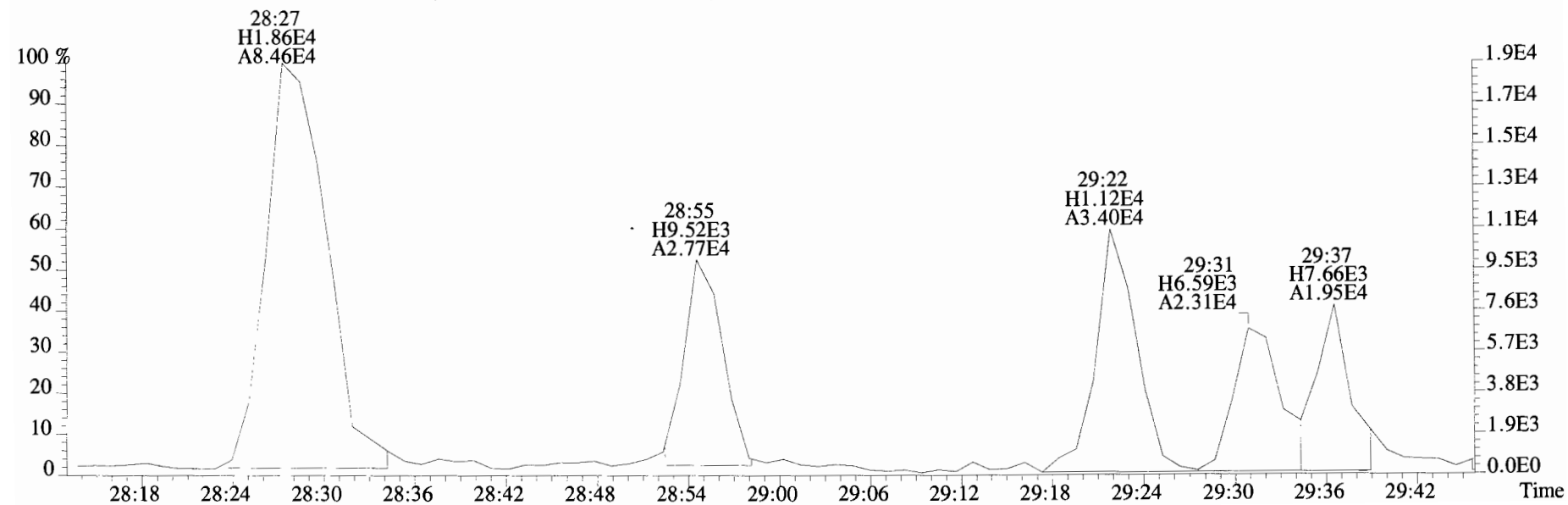
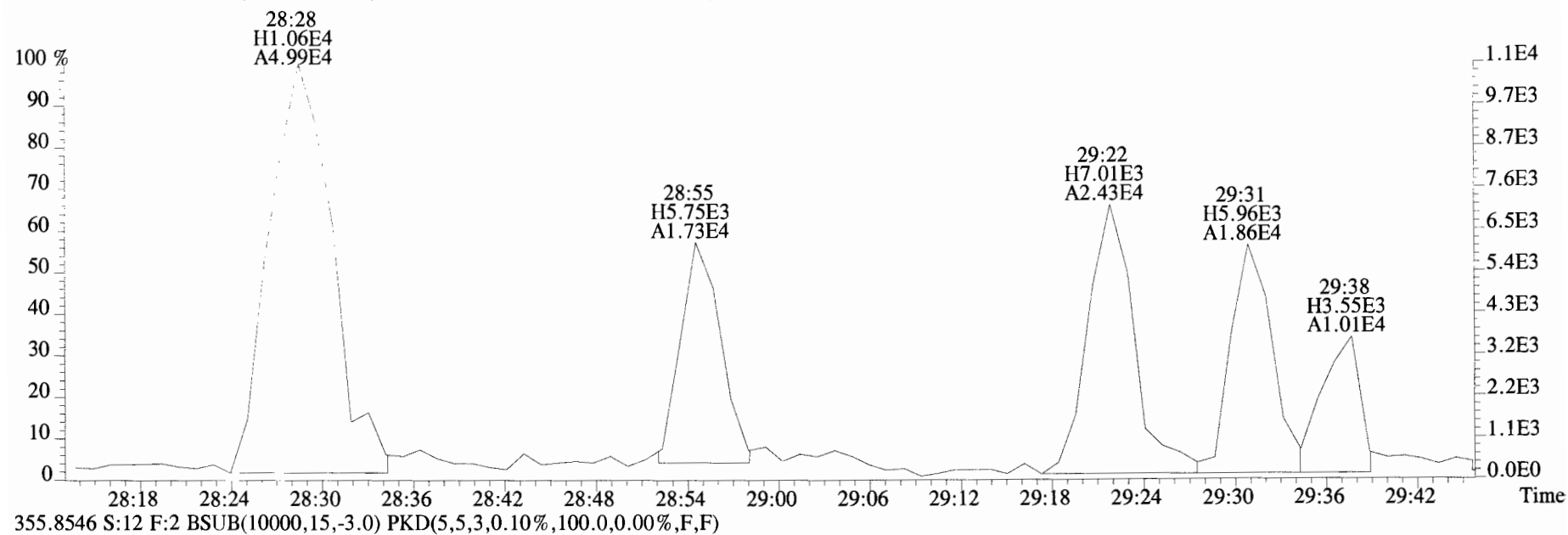
367.8949 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



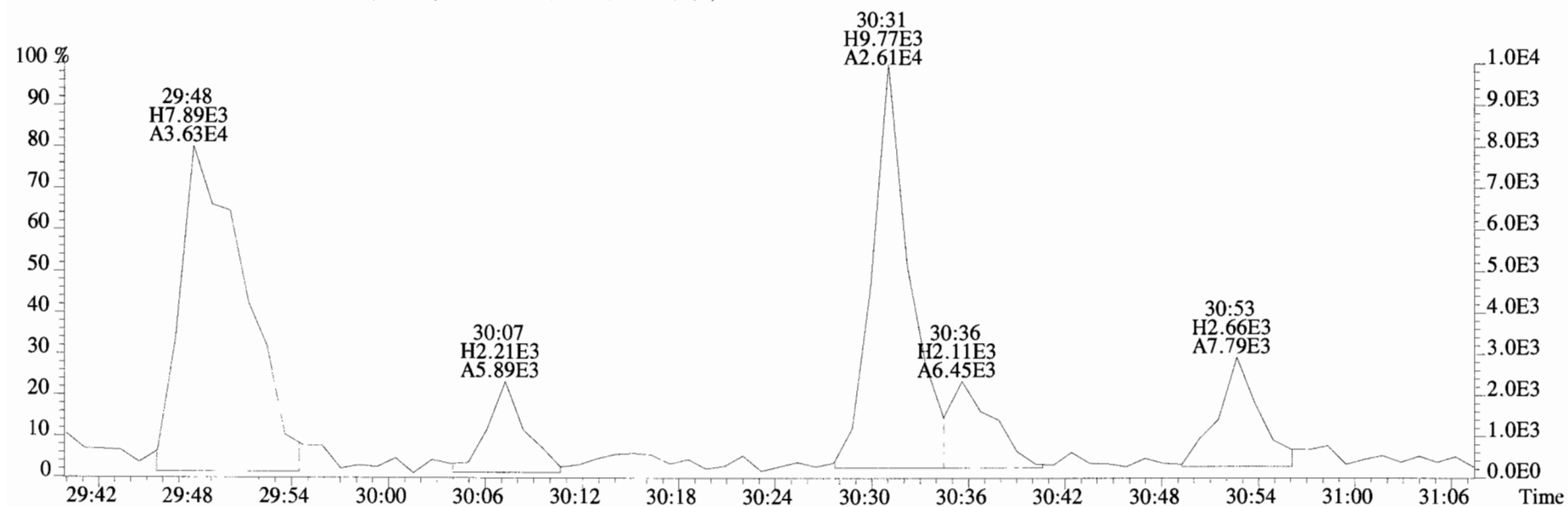
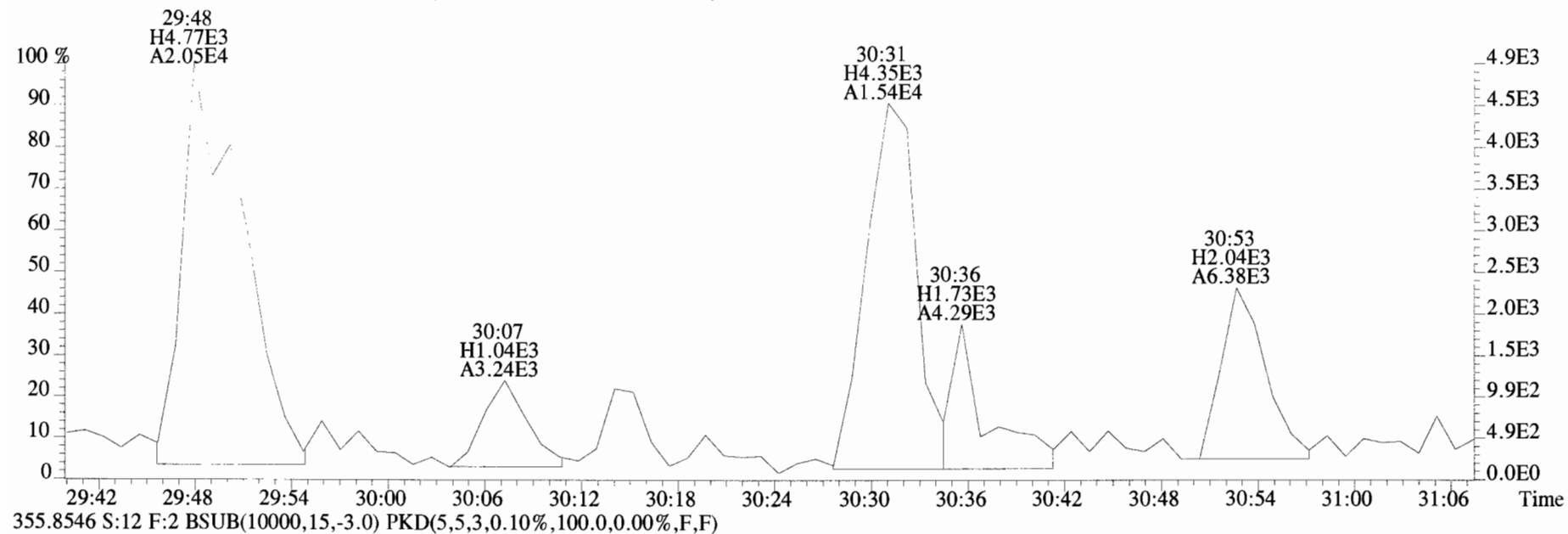
366.9792 S:12 F:2



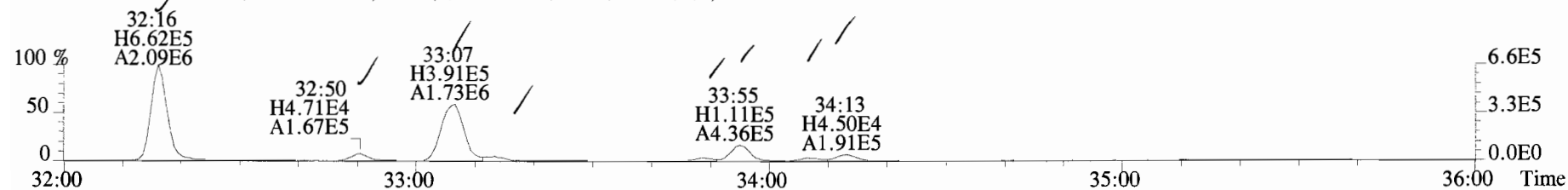
File:190626D2 #1-184 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



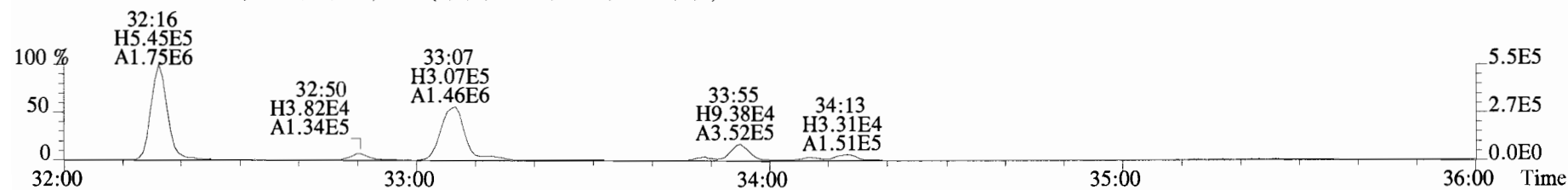
File:190626D2 #1-184 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



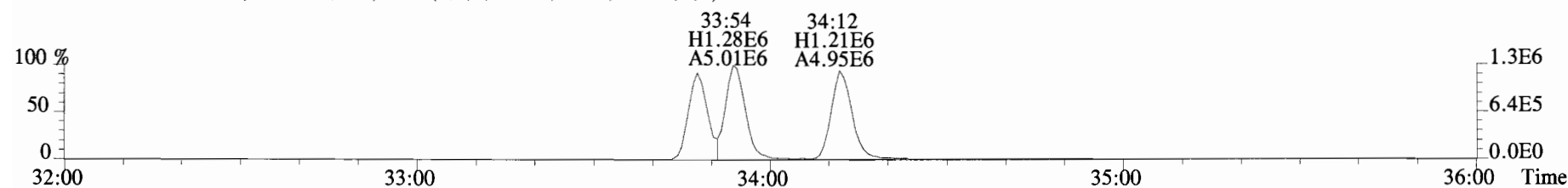
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



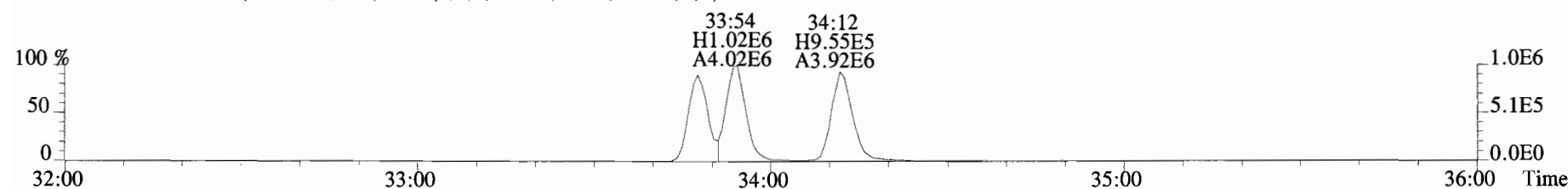
391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



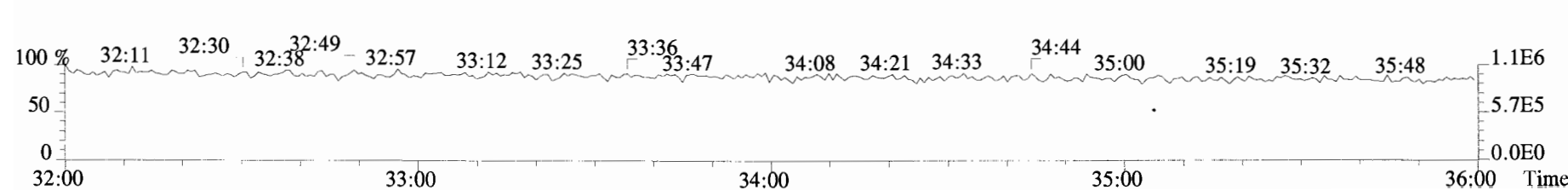
401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



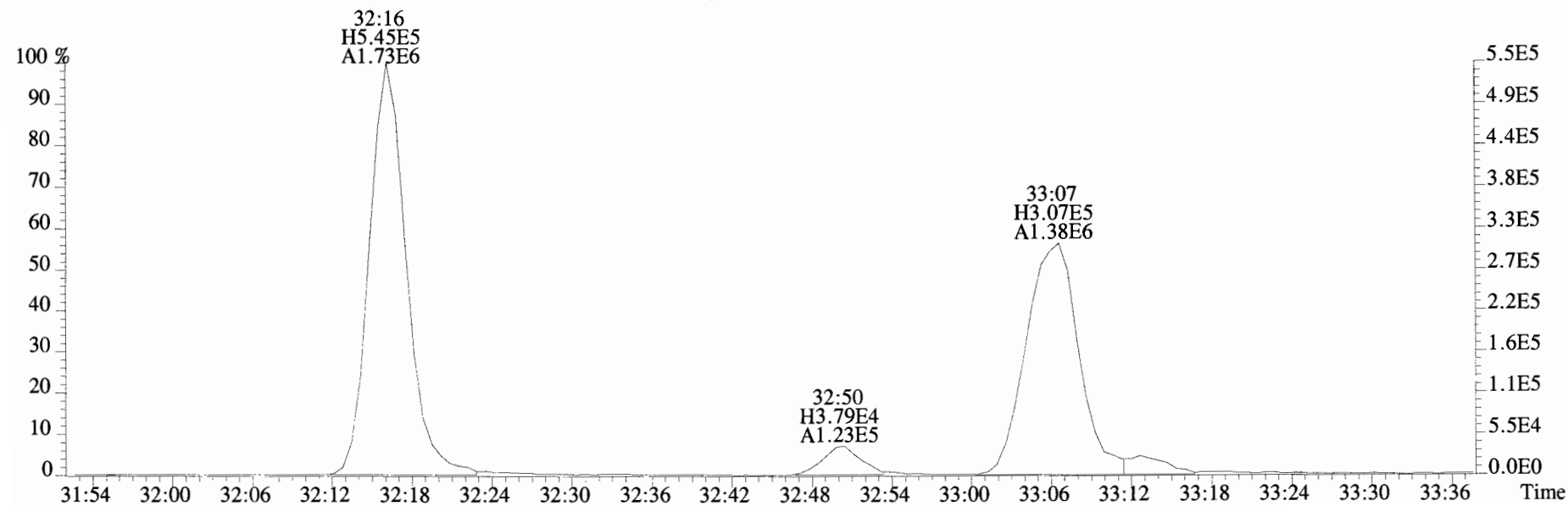
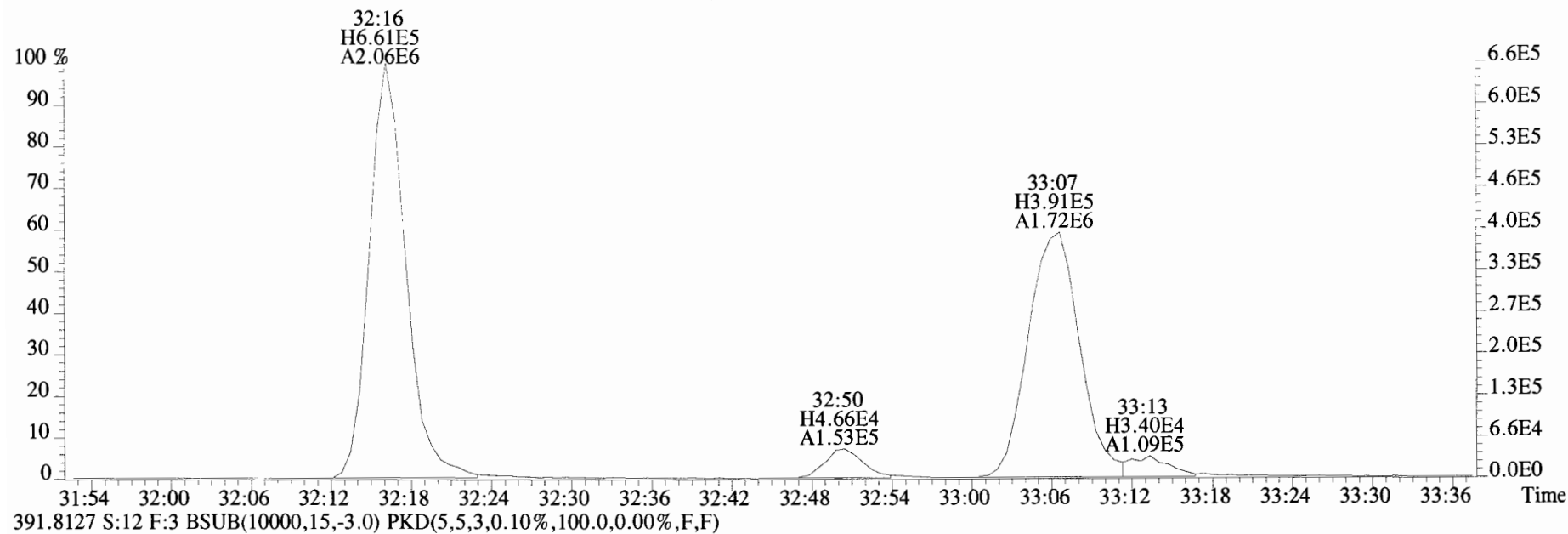
403.8530 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



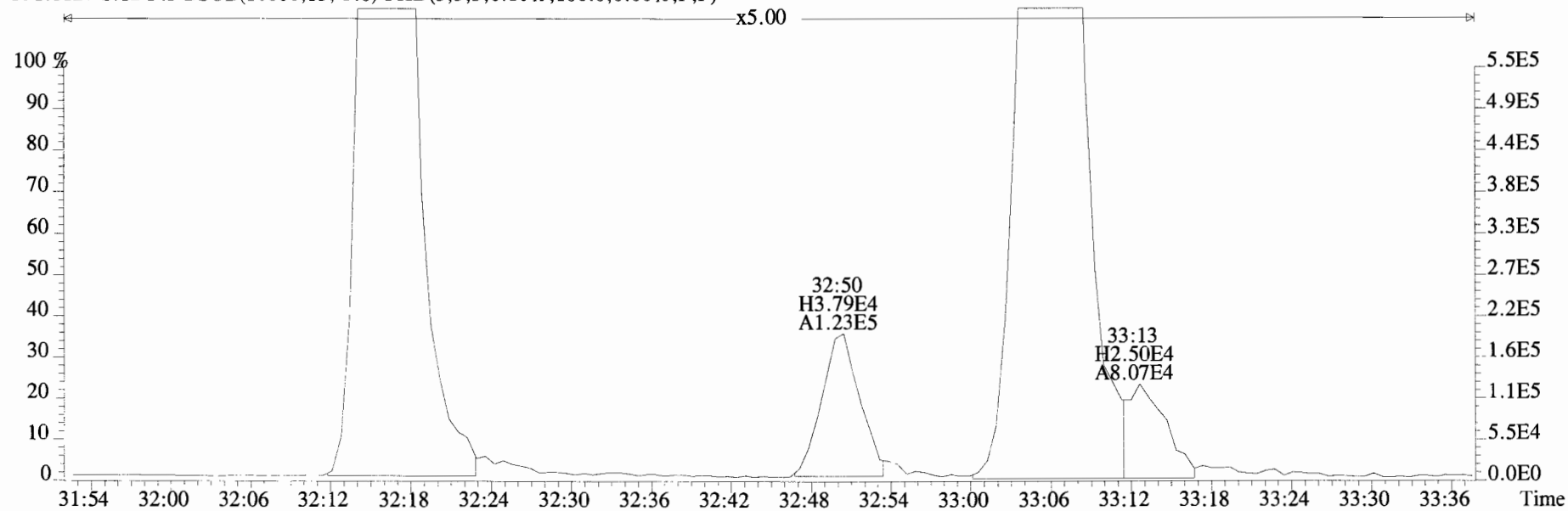
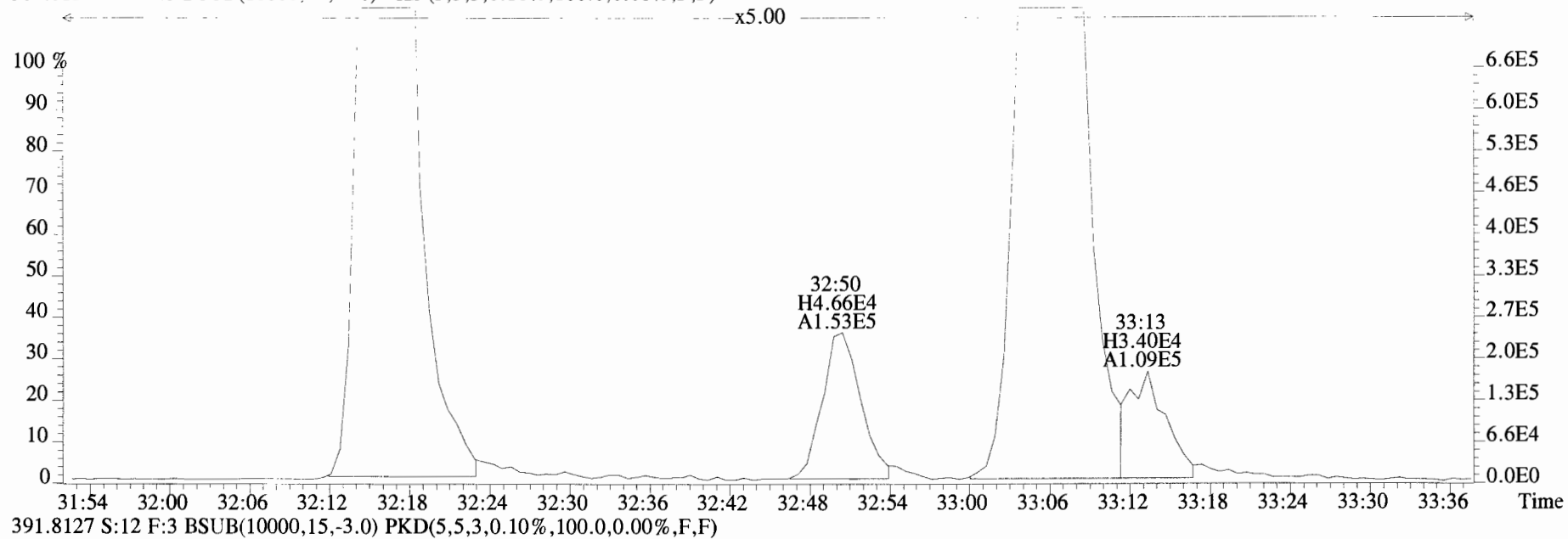
392.9760 S:12 F:3



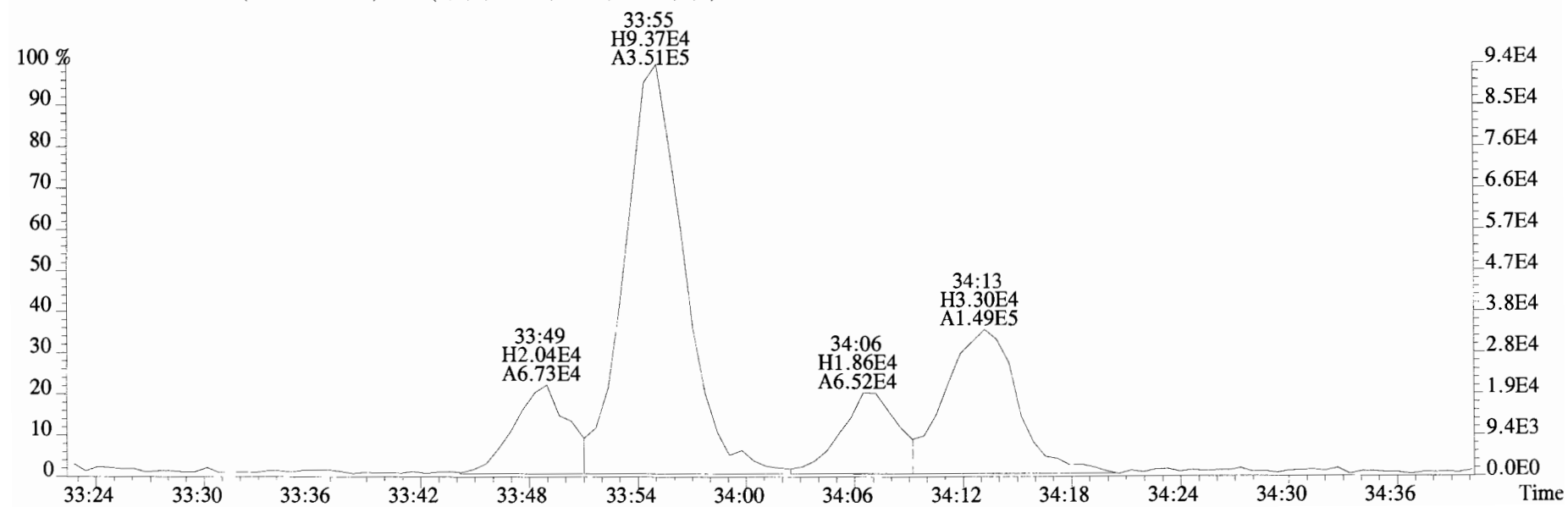
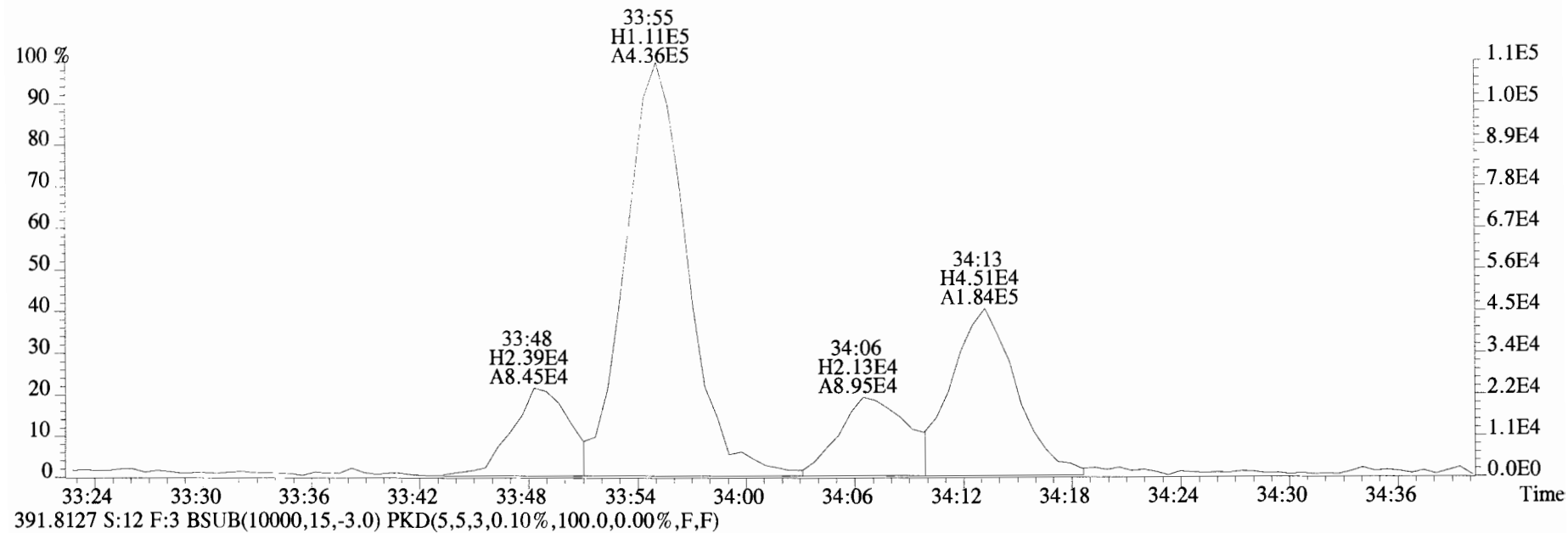
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



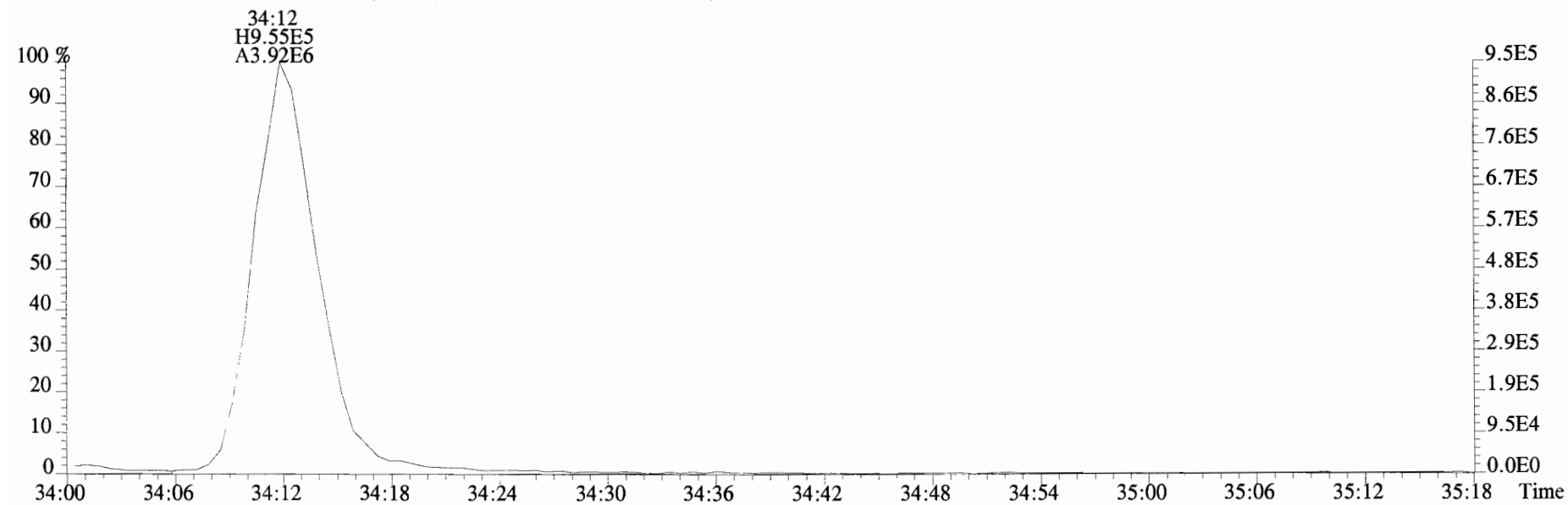
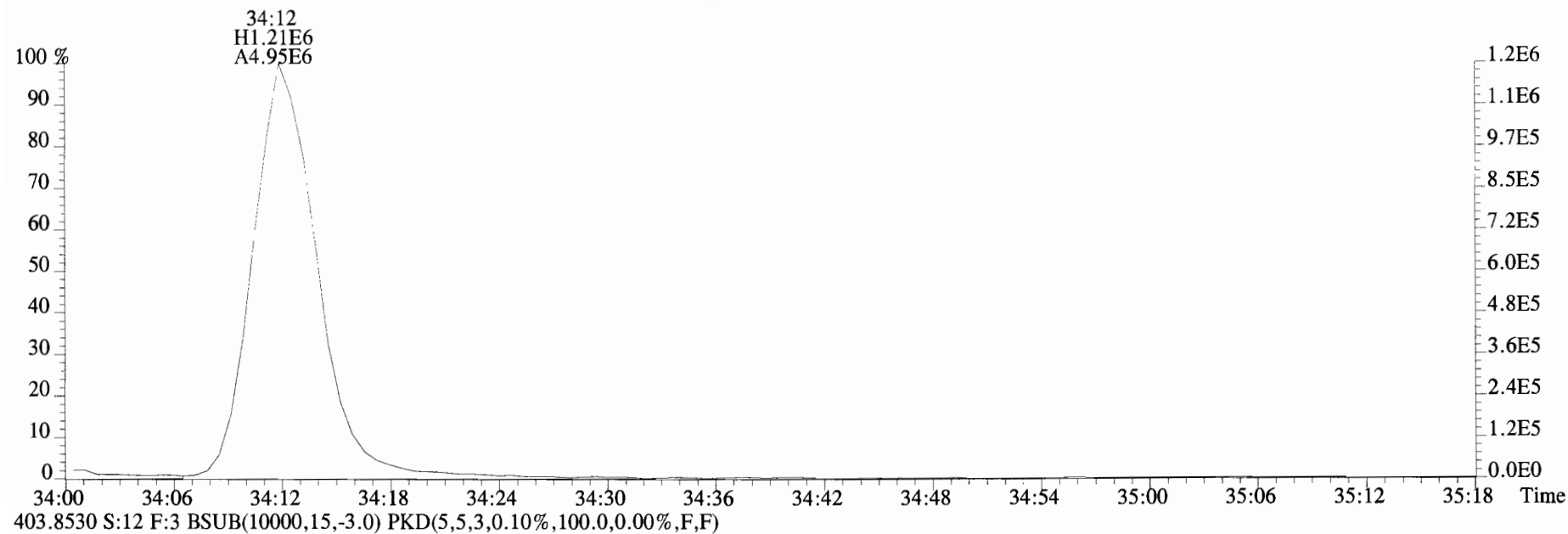
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



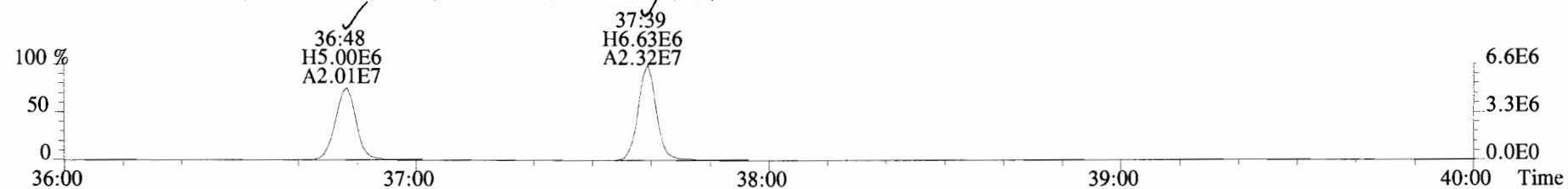
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



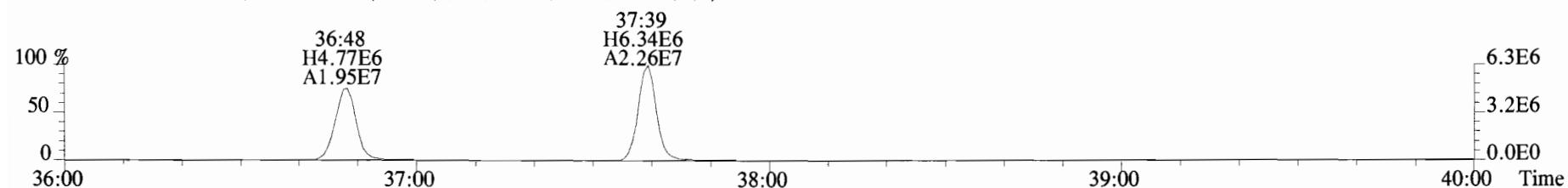
File:190626D2 #1-356 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE

Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5

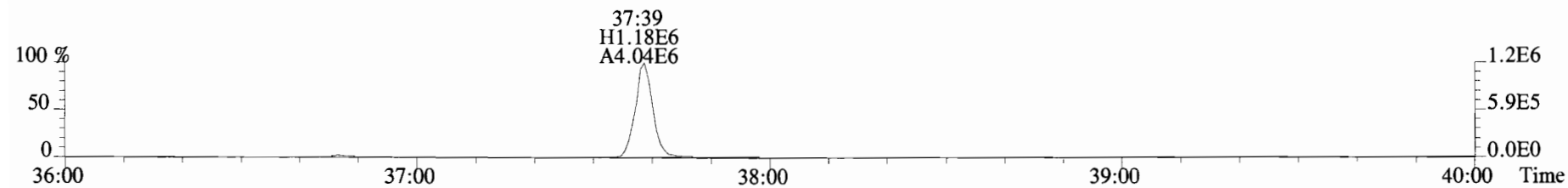
423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



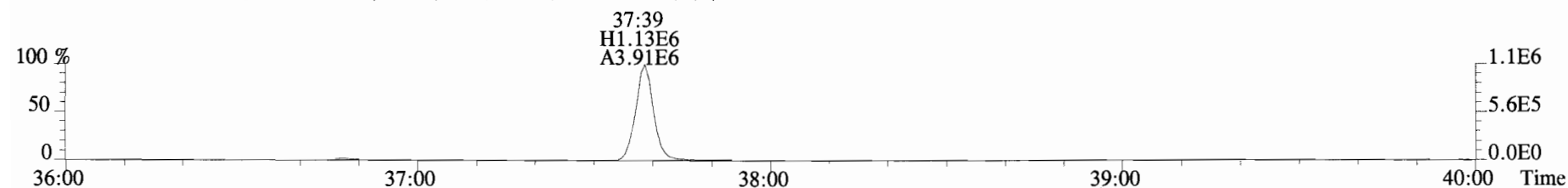
425.7737 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



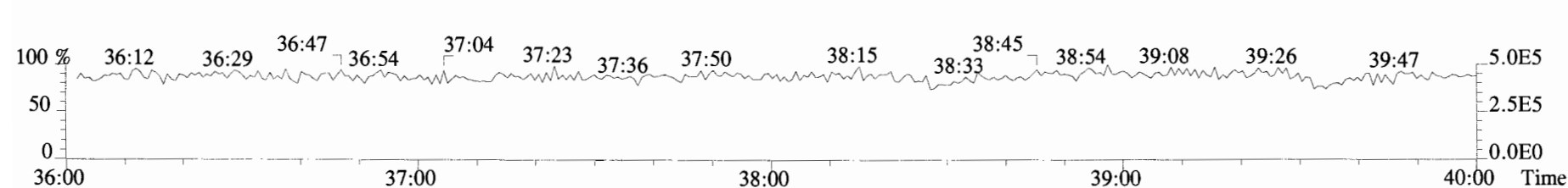
435.8169 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



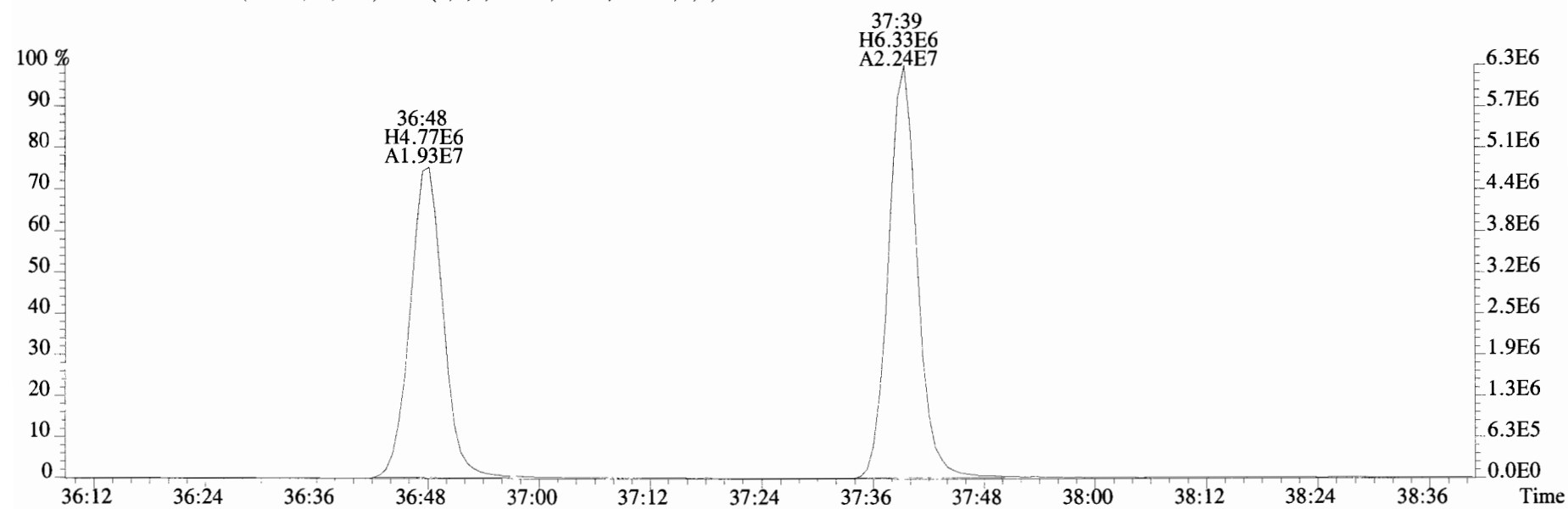
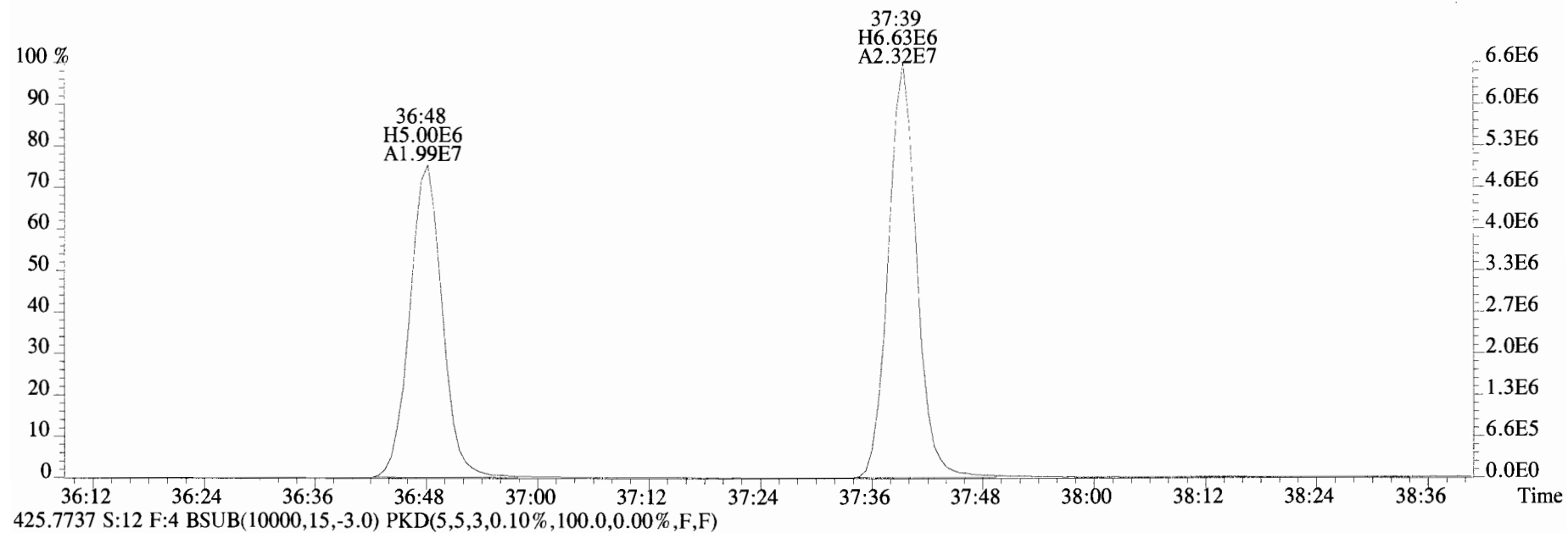
437.8140 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



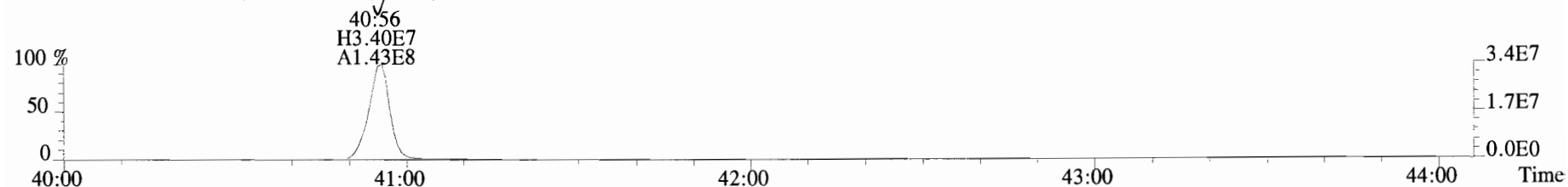
454.9728 S:12 F:4



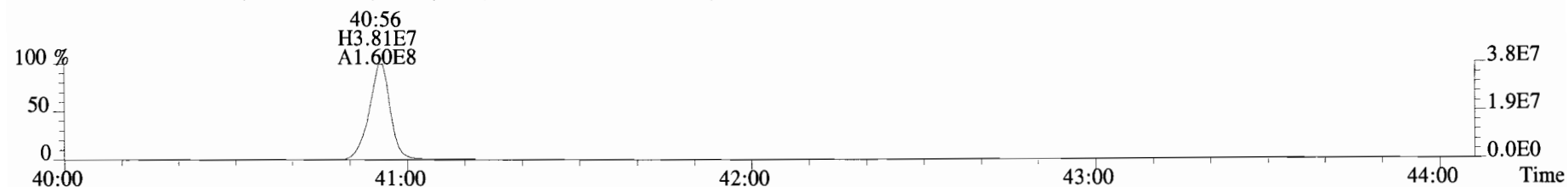
File:190626D2 #1-356 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



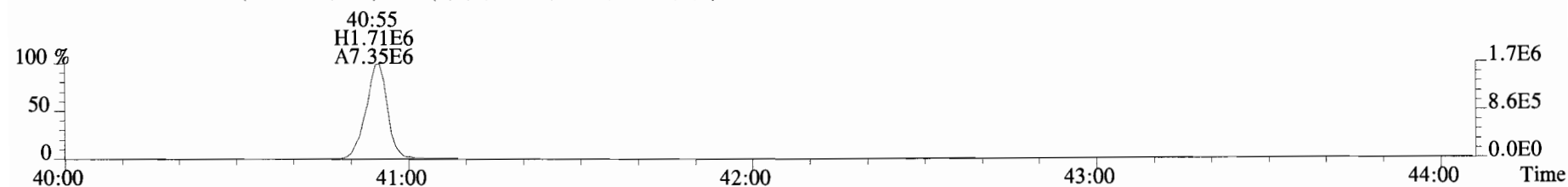
File:190626D2 #1-431 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
457.7377 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



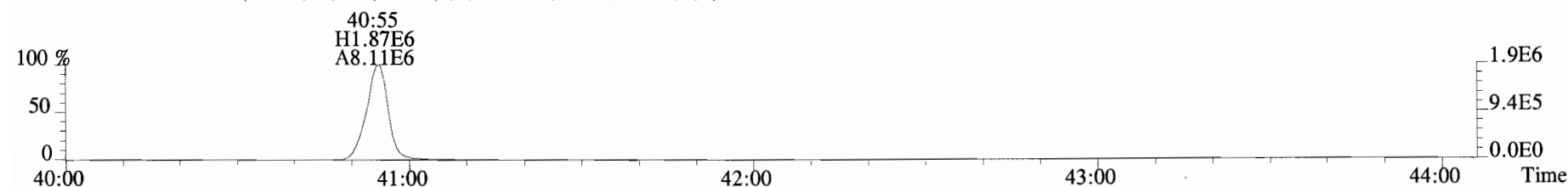
459.7348 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



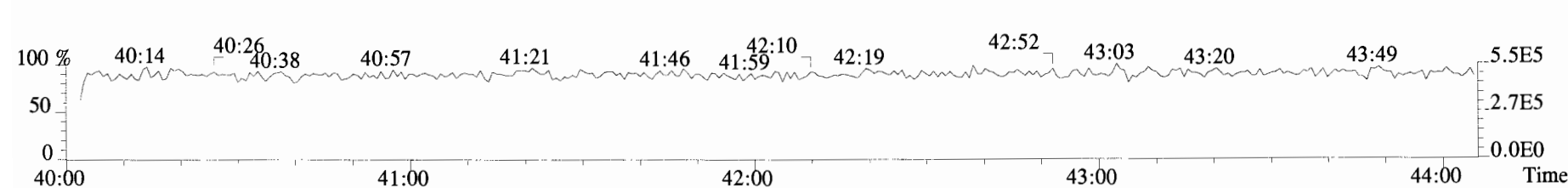
469.7780 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



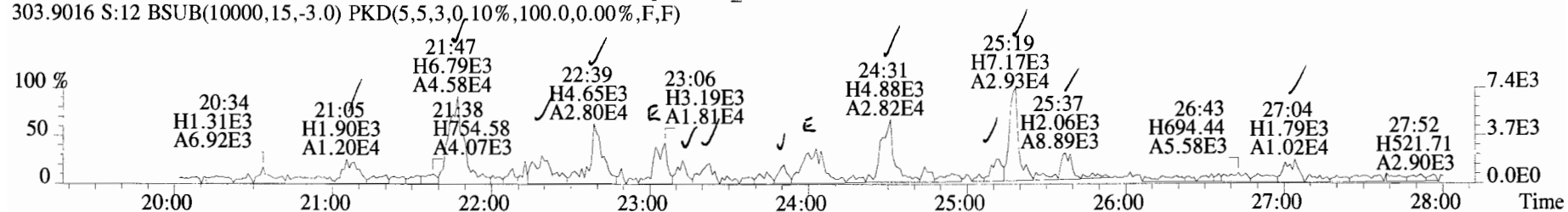
471.7750 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



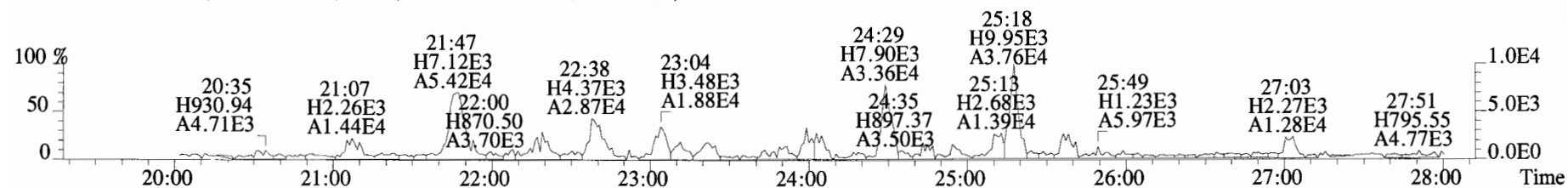
454.9728 S:12 F:5



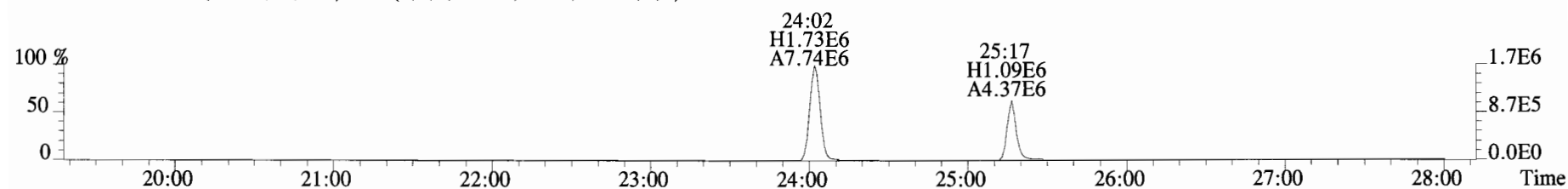
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F)



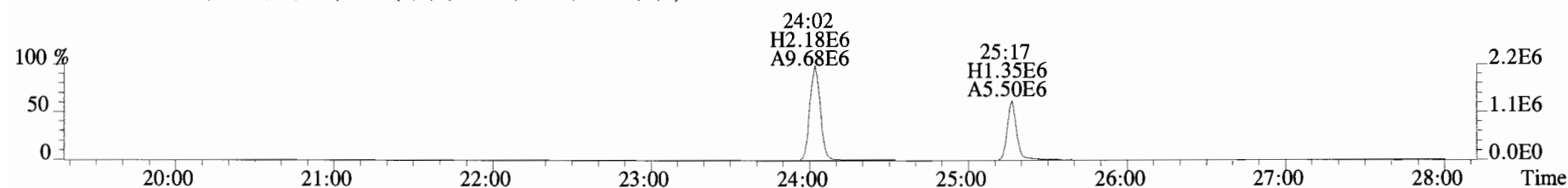
305.8987 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F)



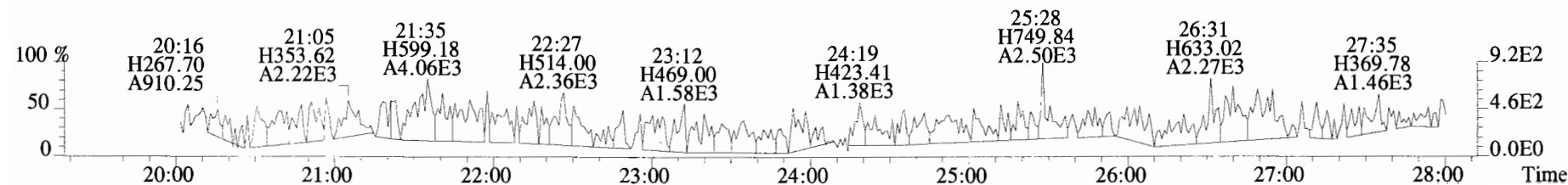
315.9419 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F)



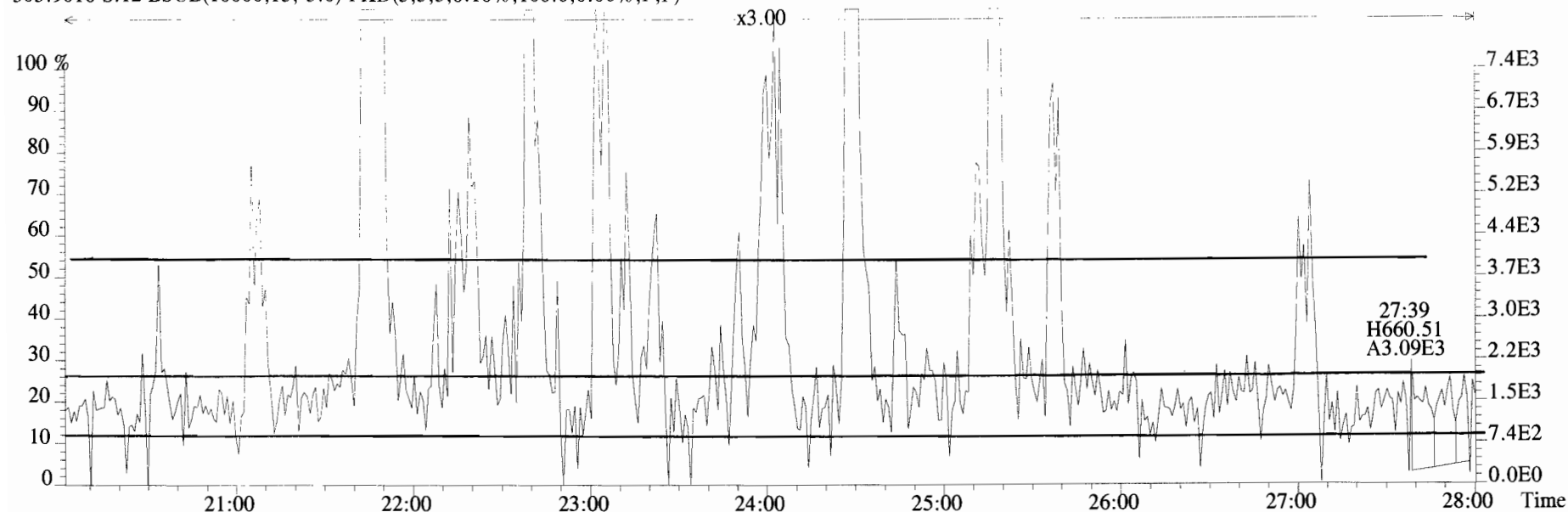
317.9389 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F)



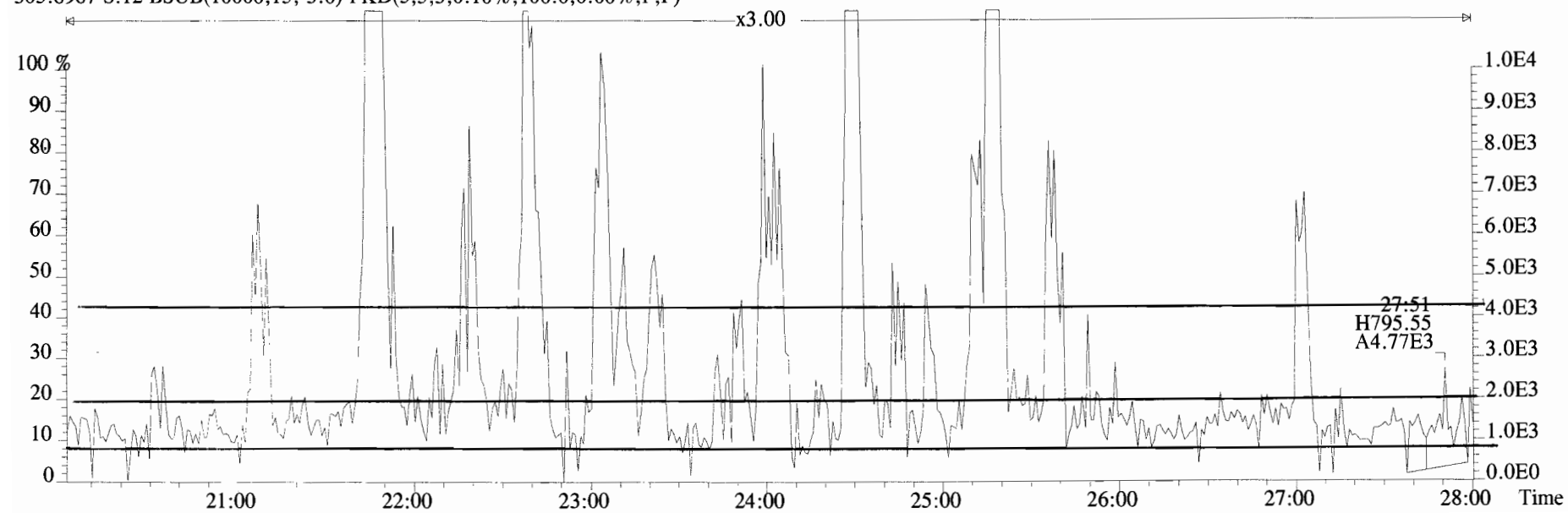
375.8364 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F)



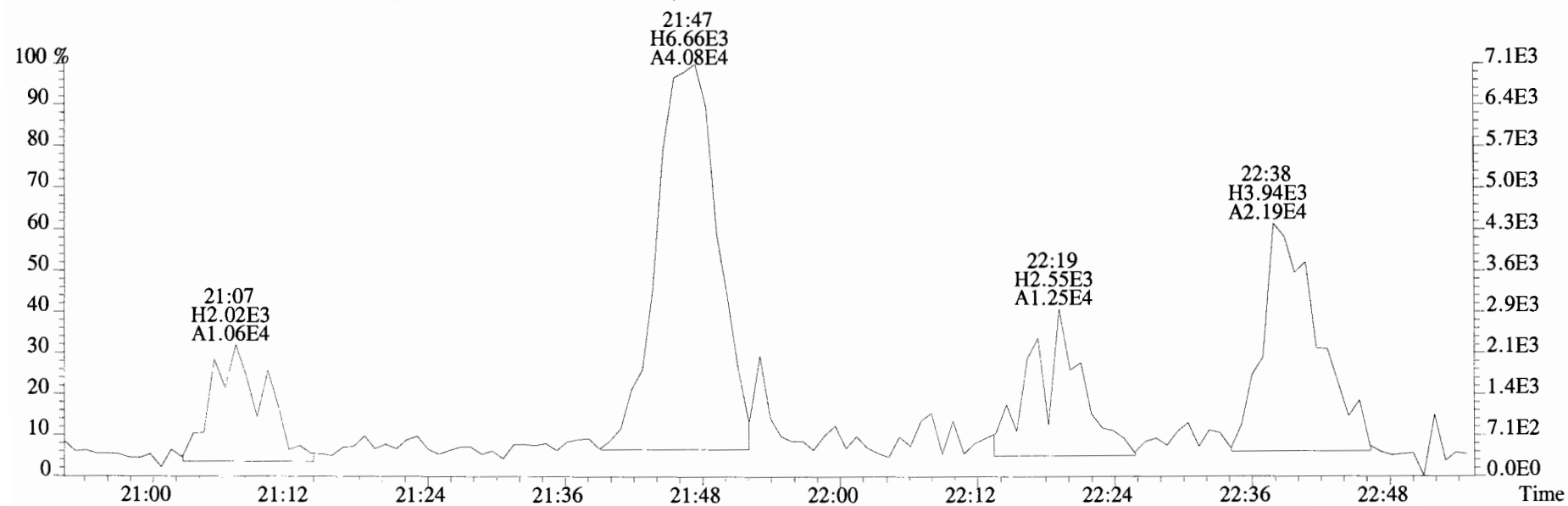
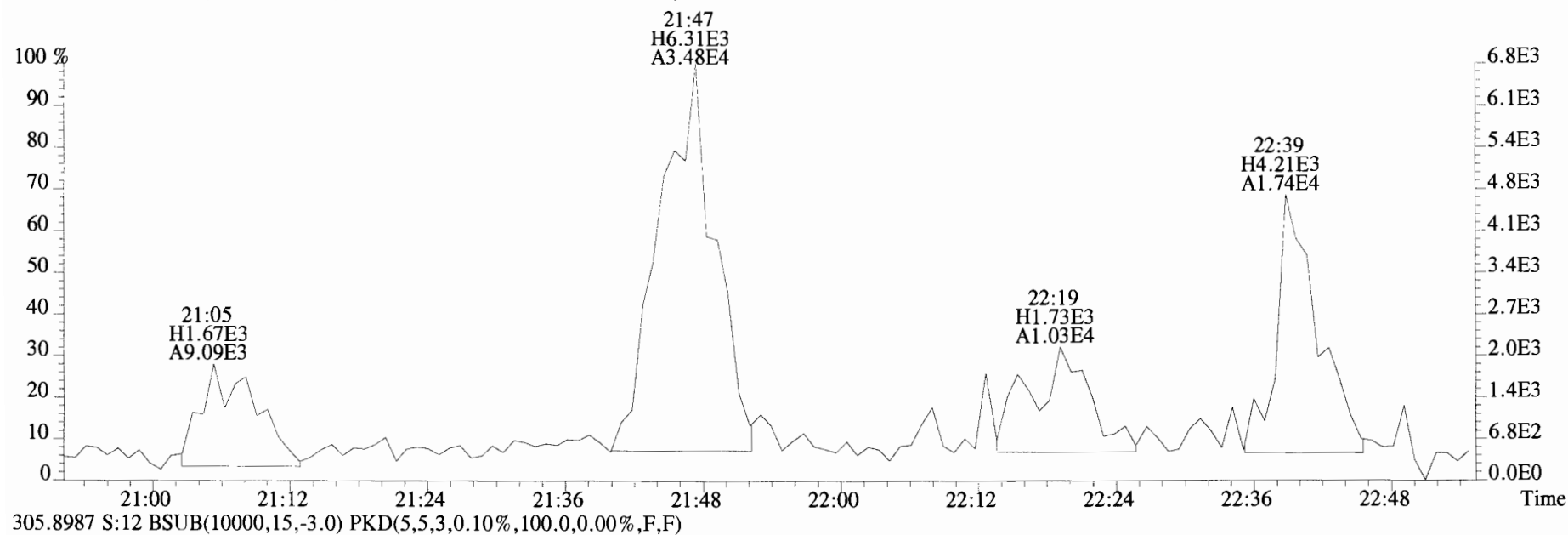
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



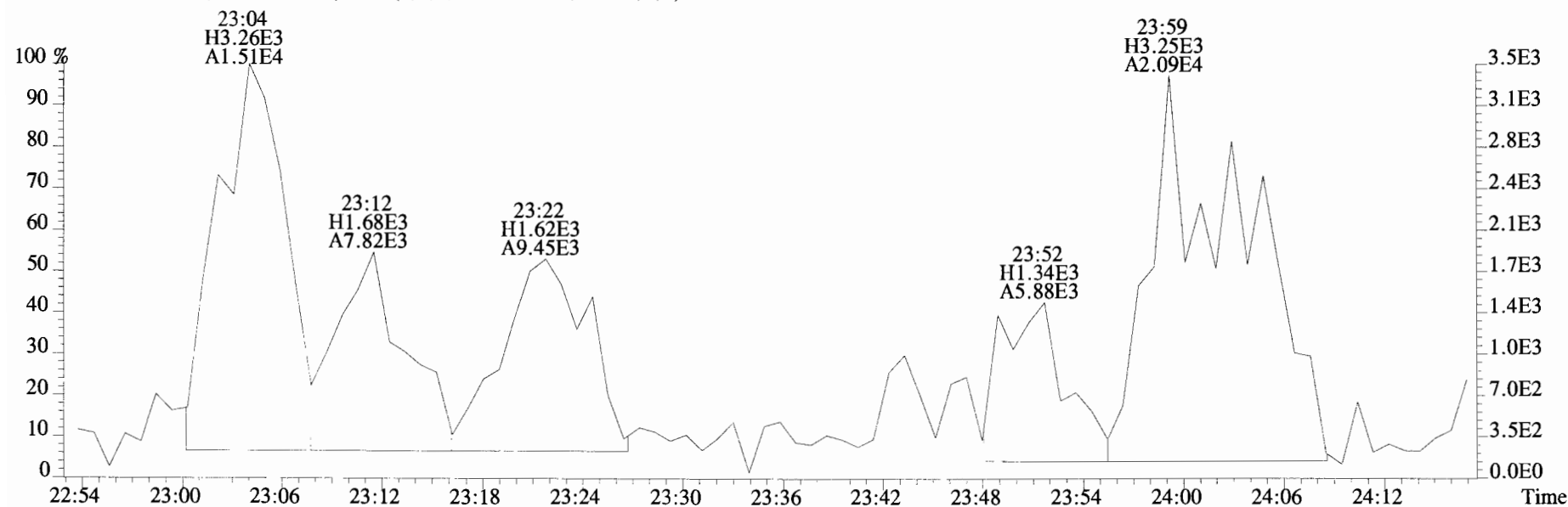
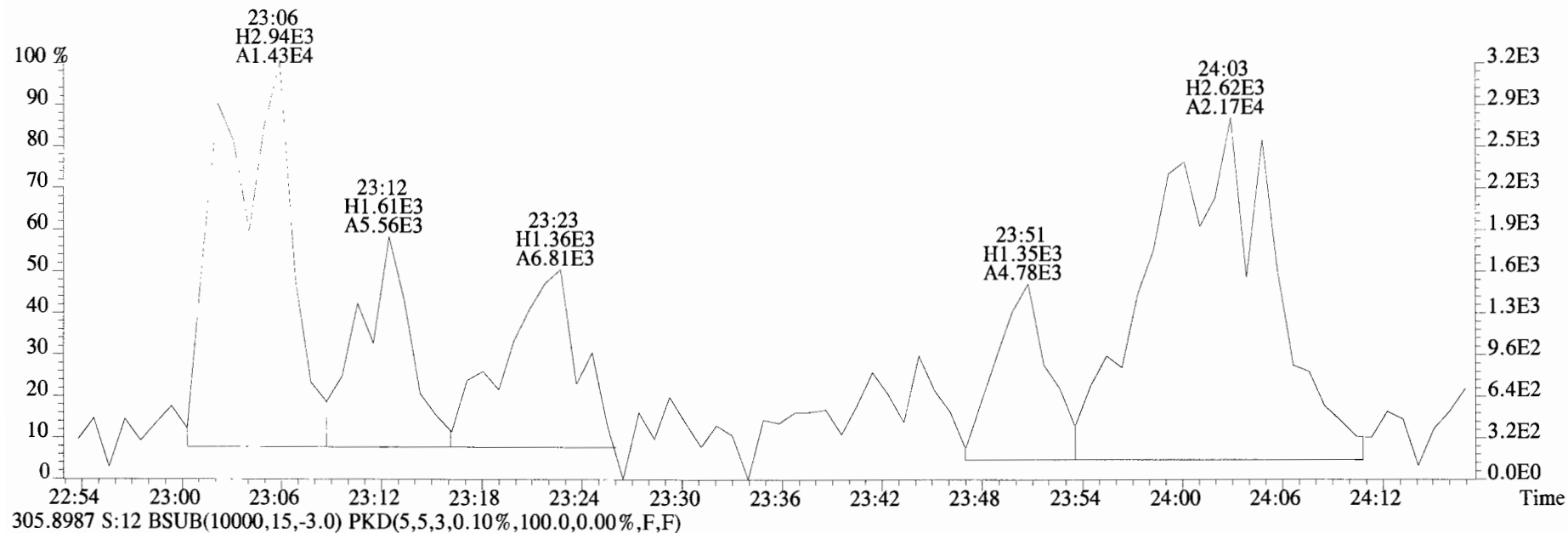
305.8987 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



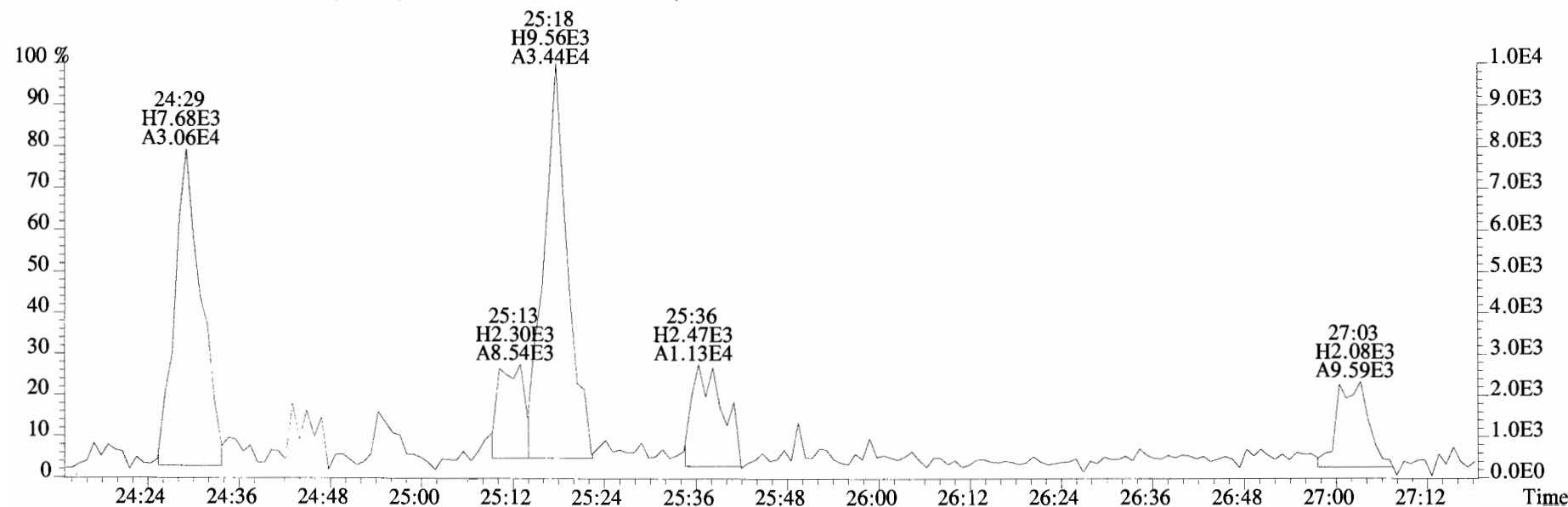
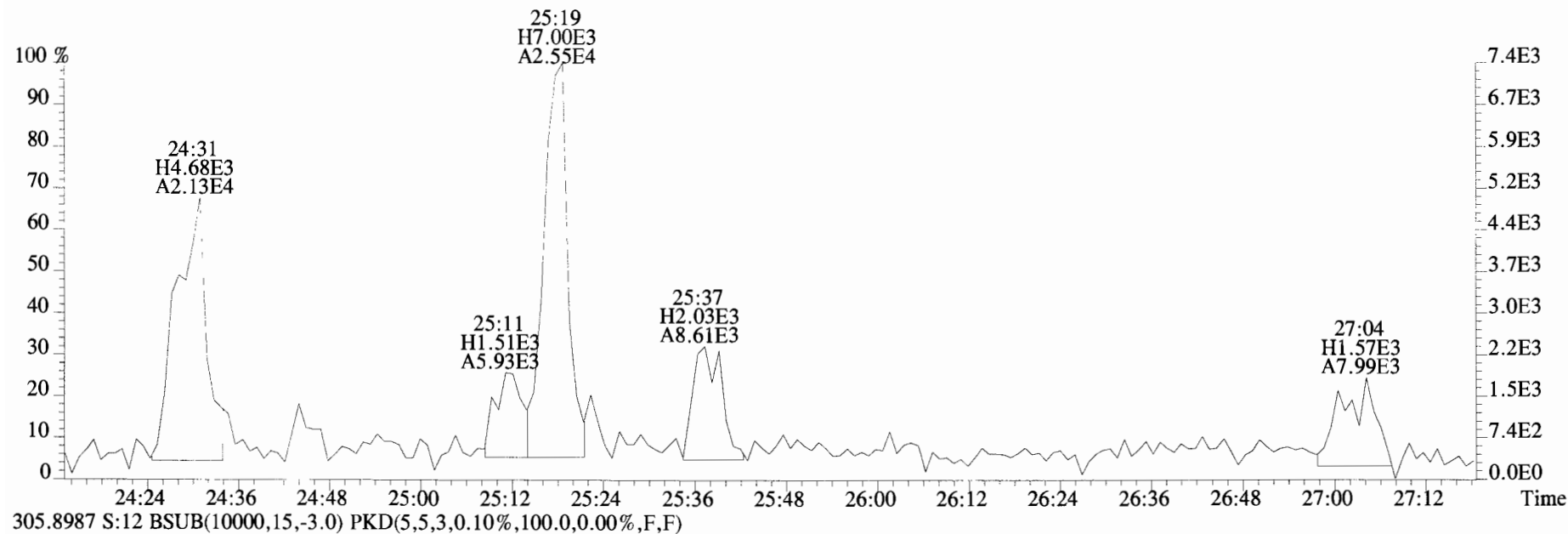
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



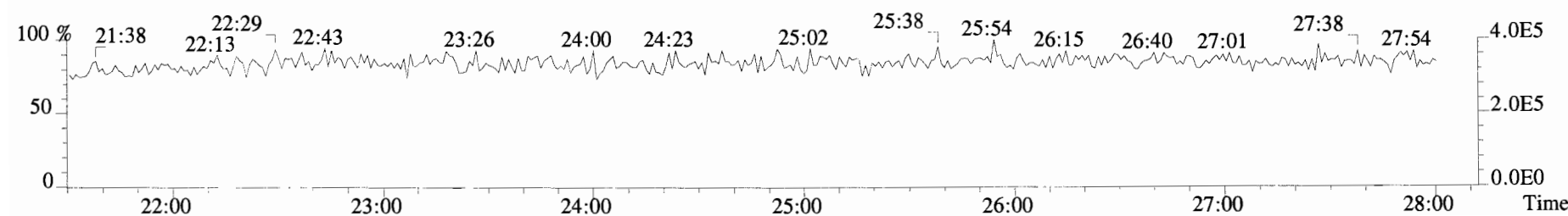
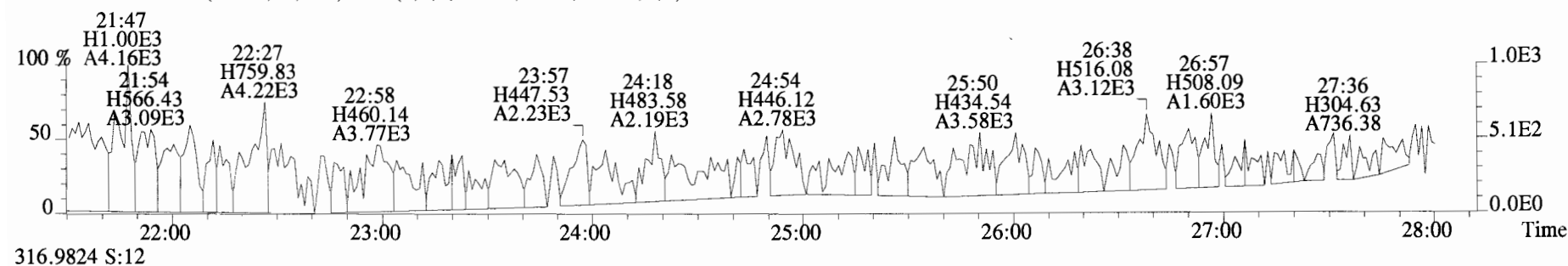
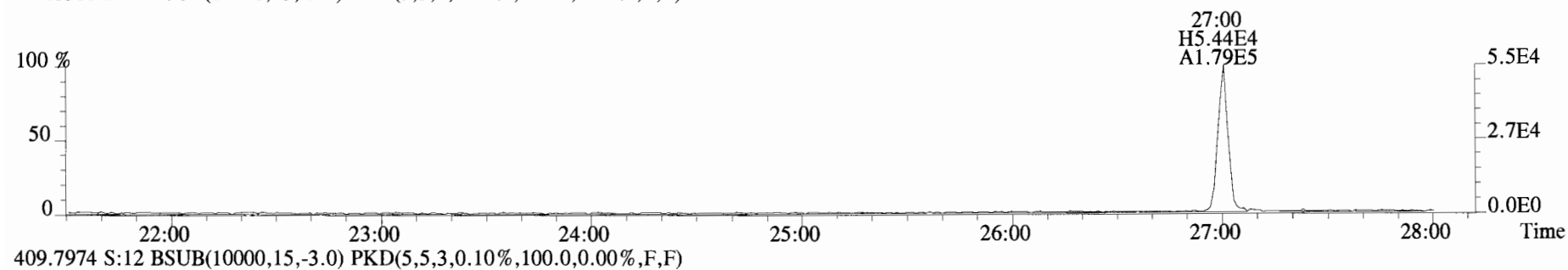
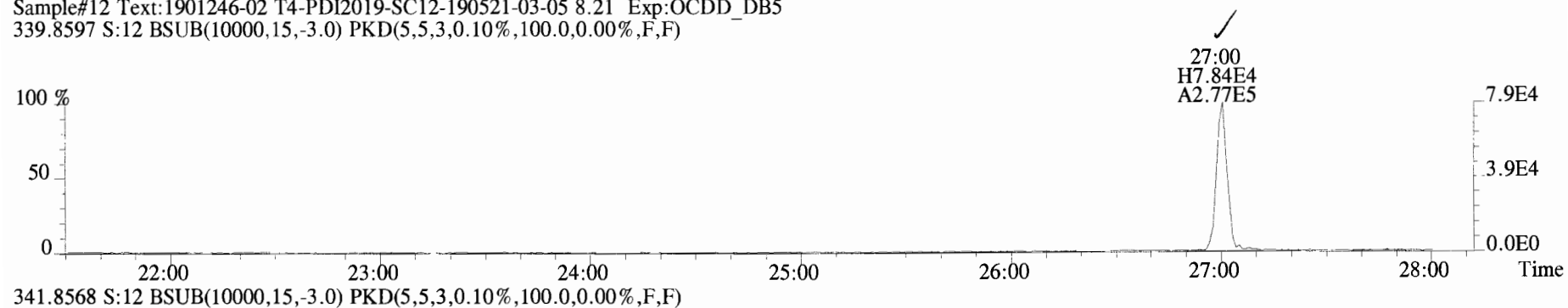
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



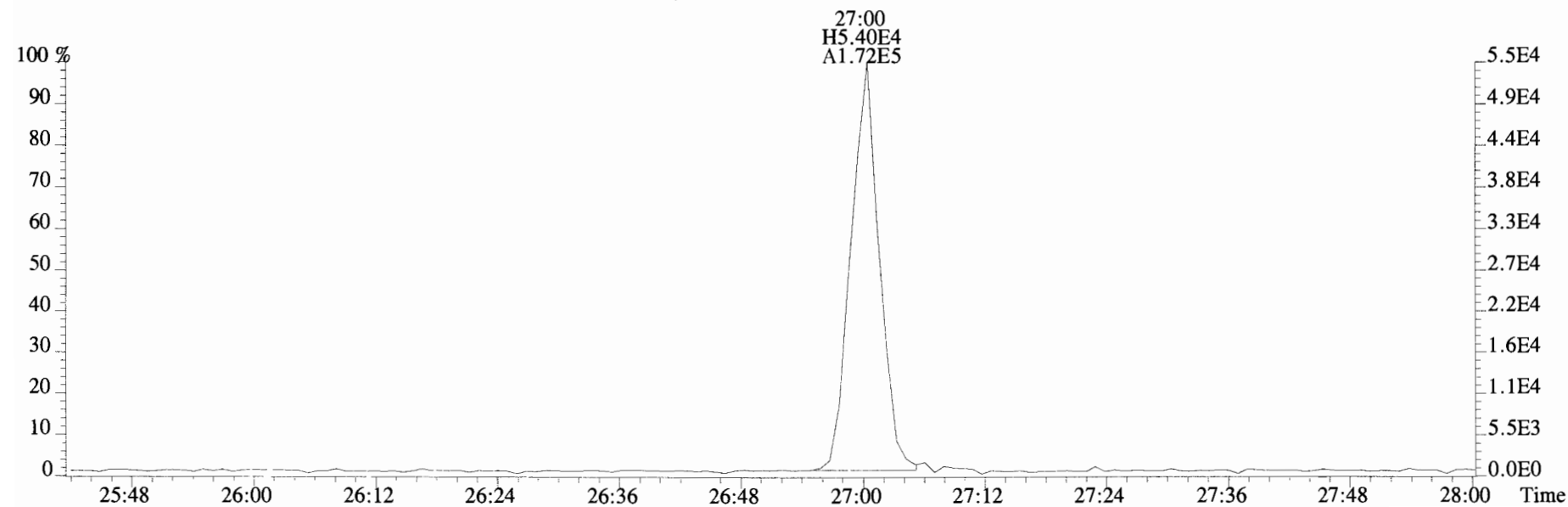
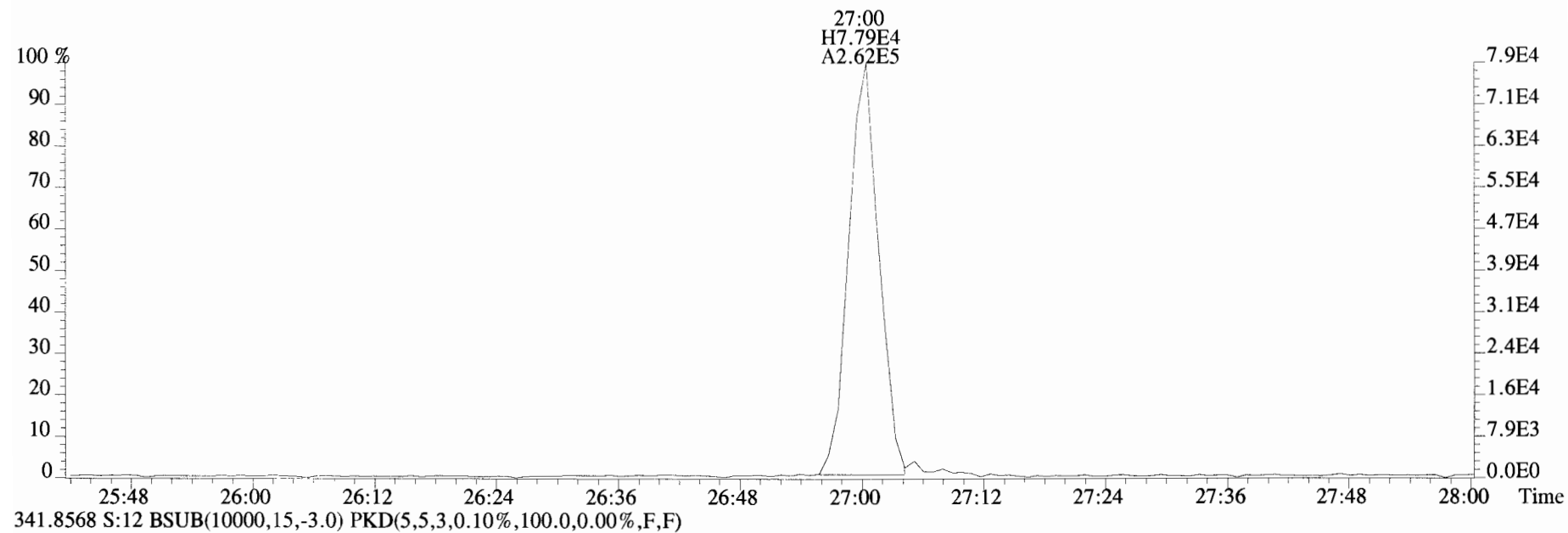
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



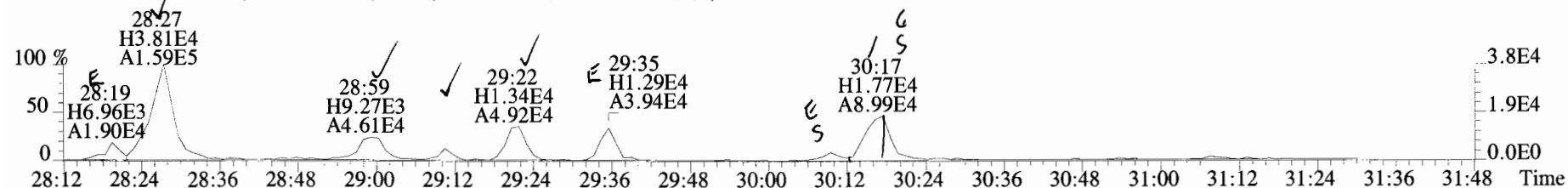
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
339.8597 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



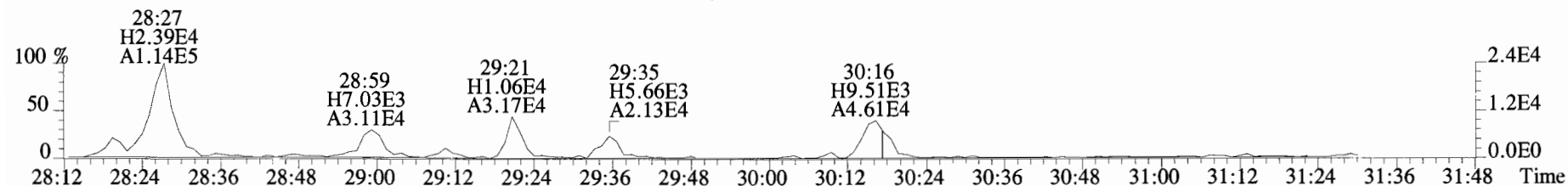
File:190626D2 #1-513 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
339.8597 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



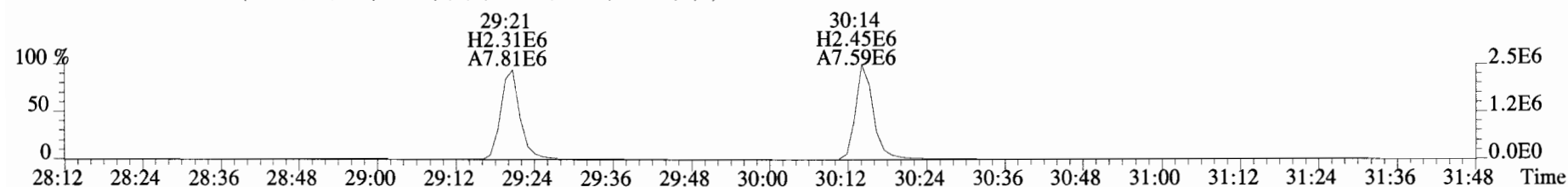
File:190626D2 #1-184 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



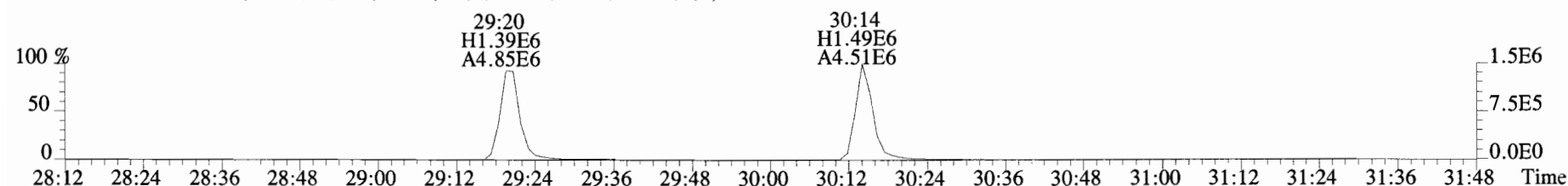
341.8568 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



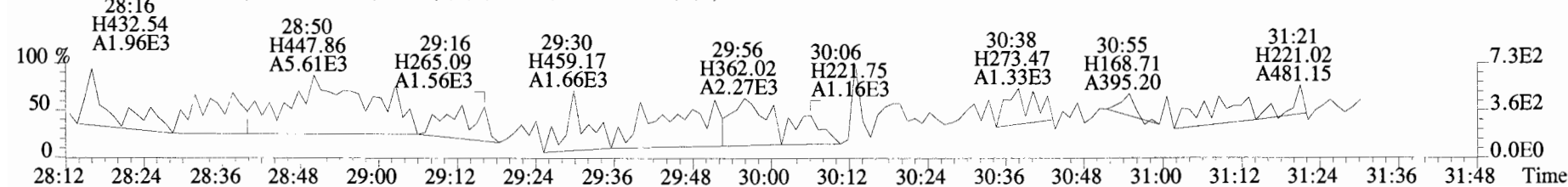
351.9000 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



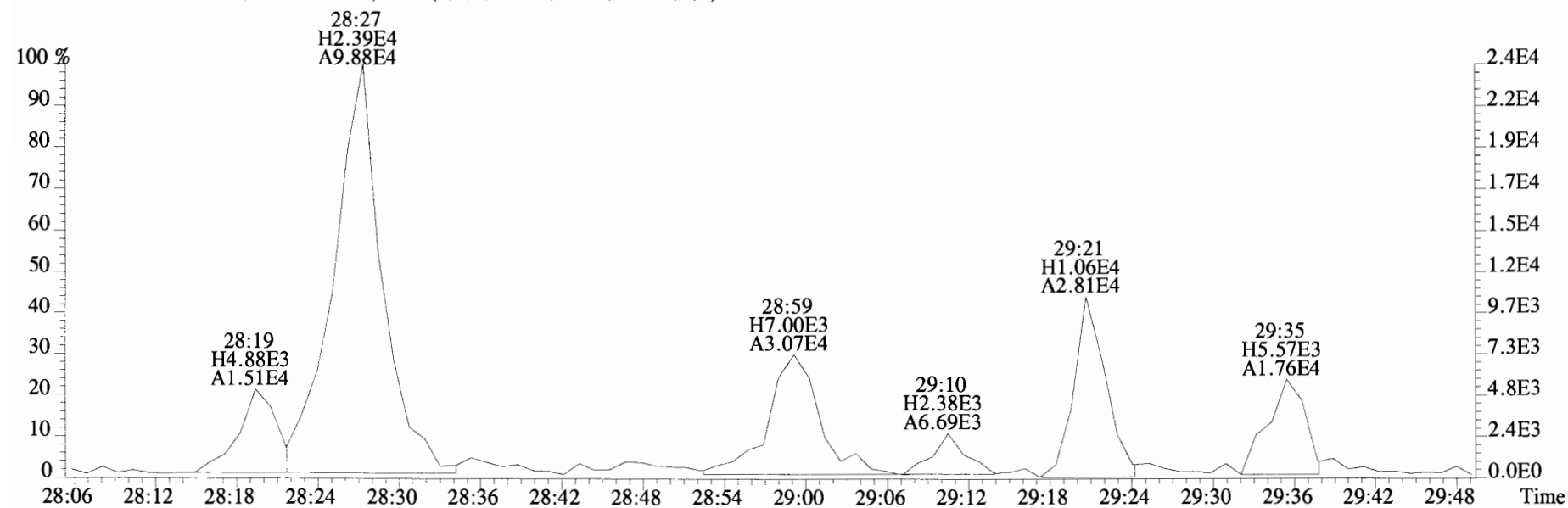
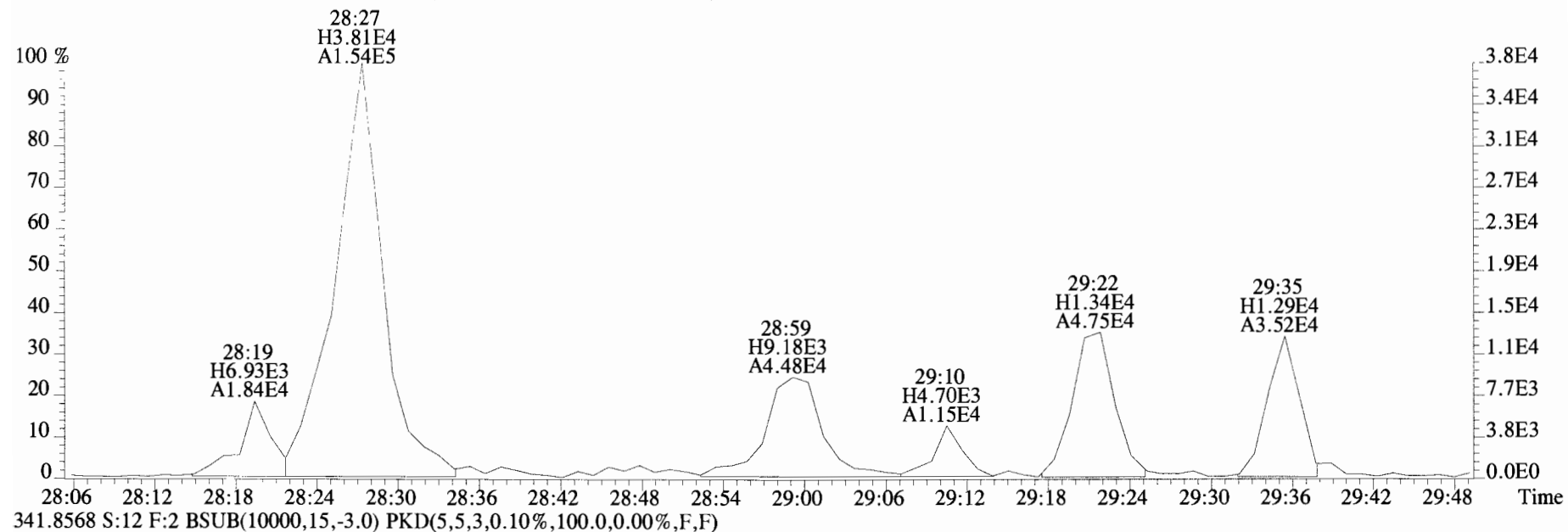
353.8970 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



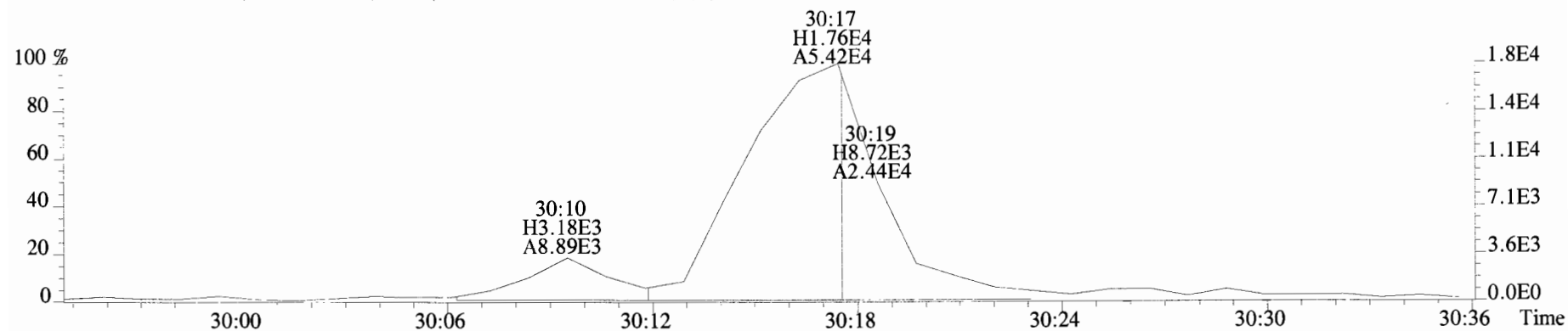
409.7974 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



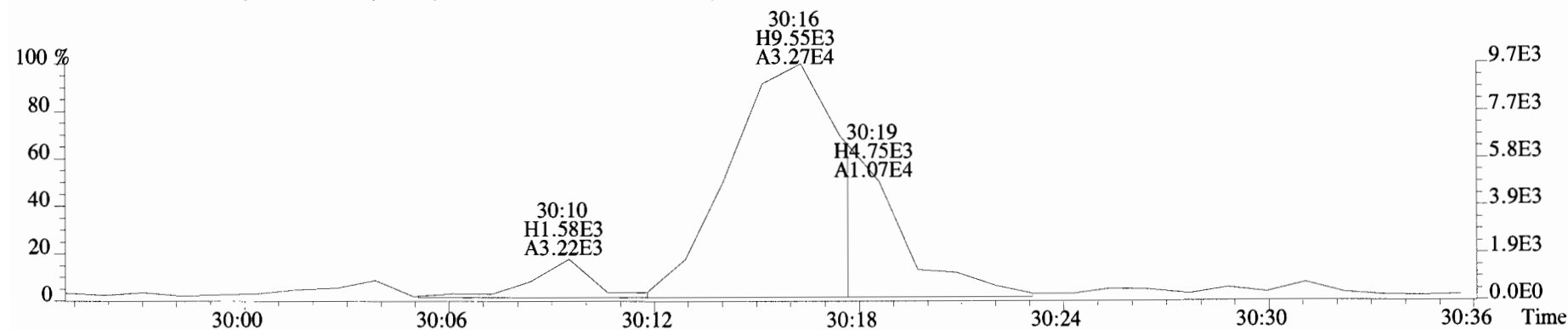
File:190626D2 #1-184 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



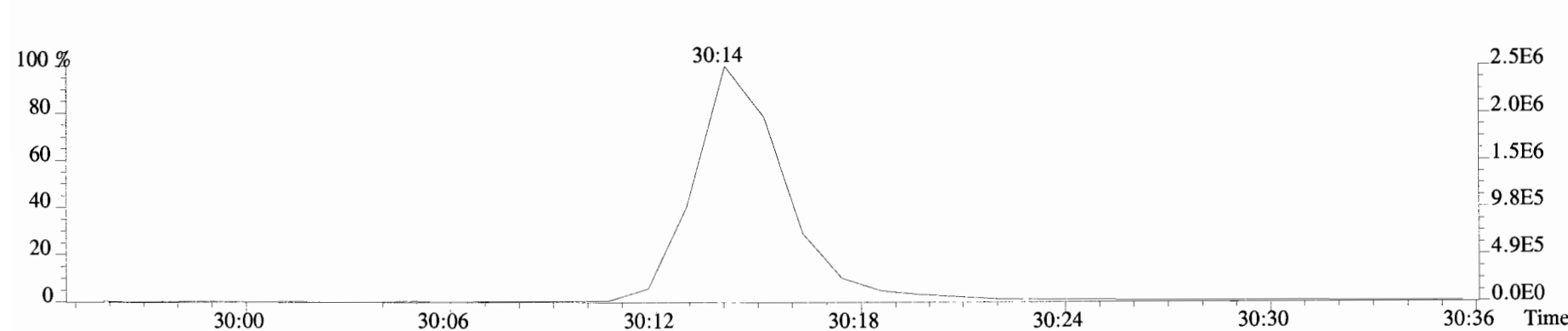
File:190626D2 #1-184 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



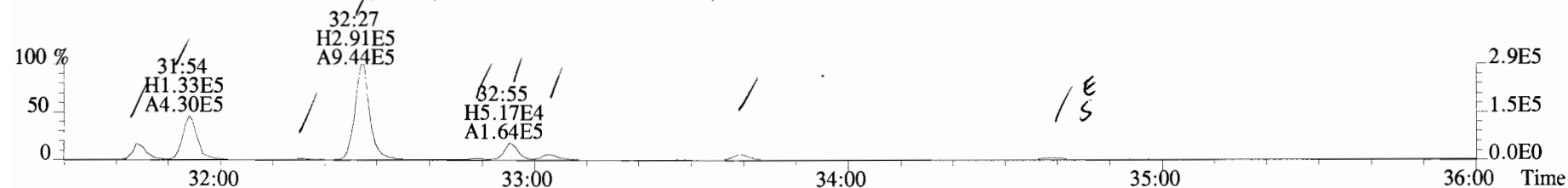
341.8568 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



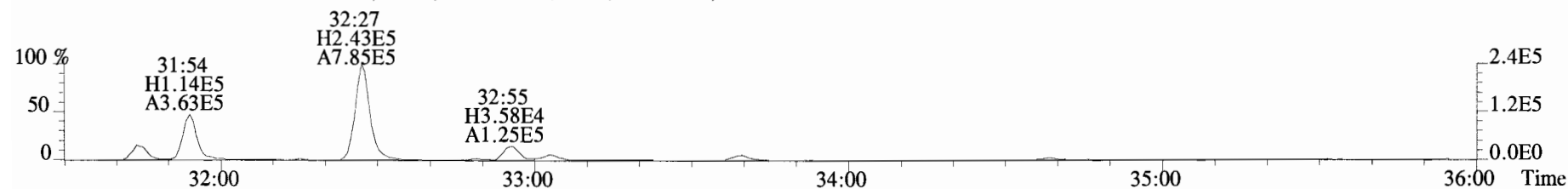
351.9000 S:12 F:2



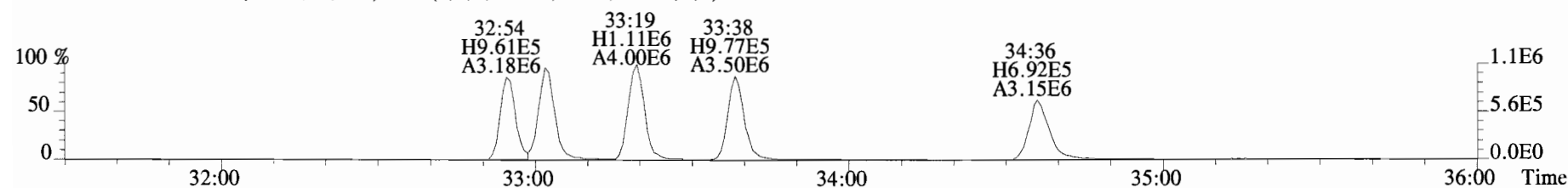
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



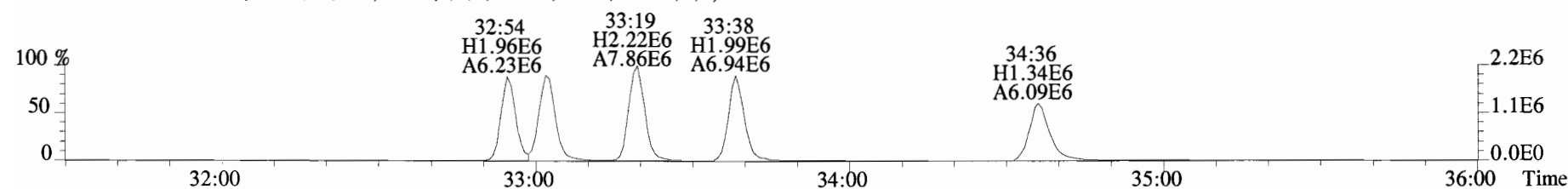
375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



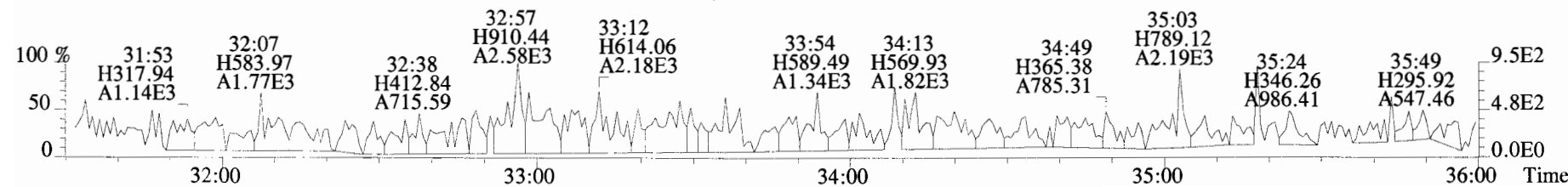
383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



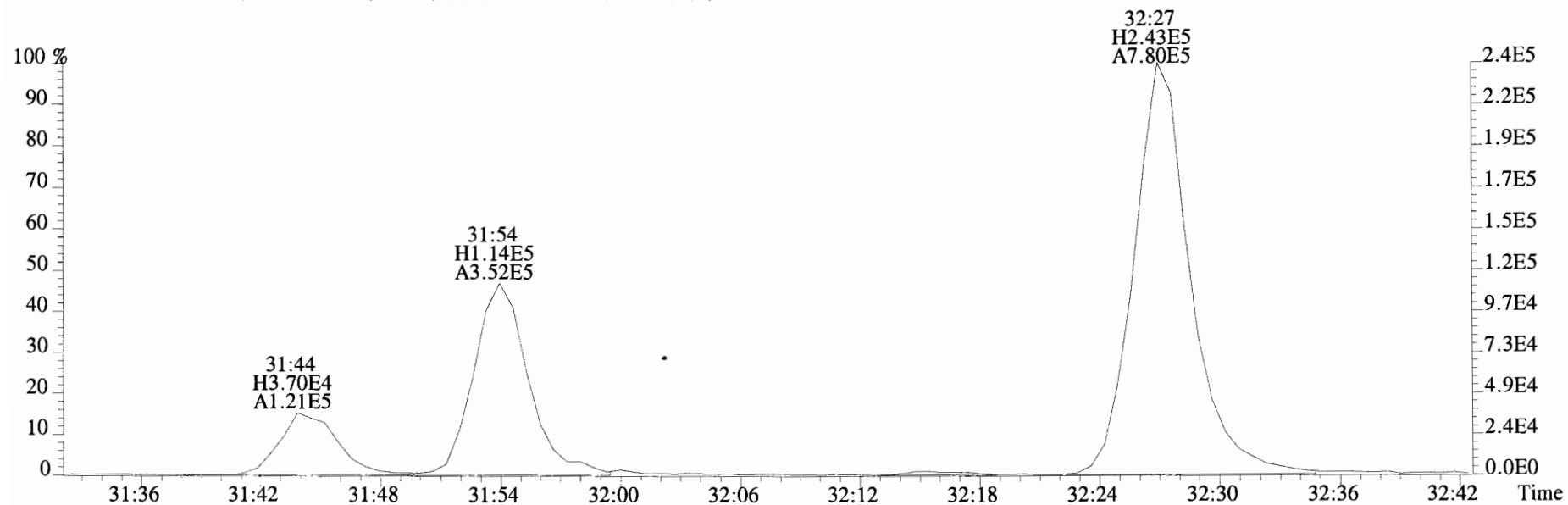
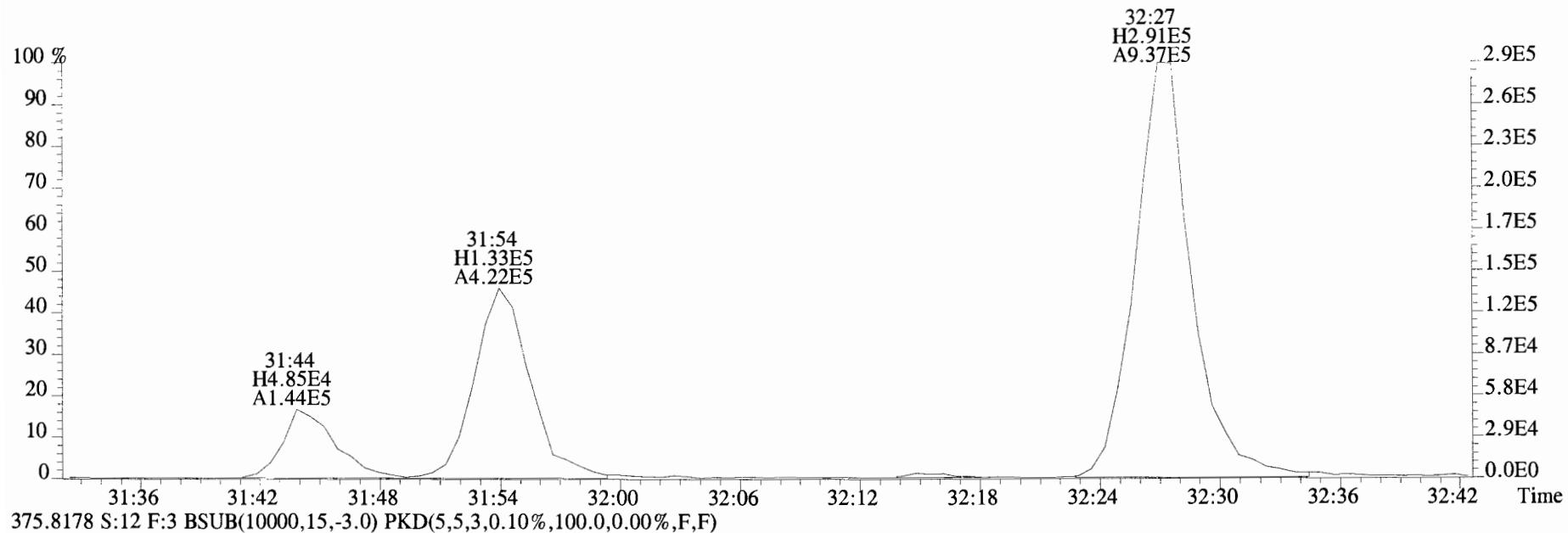
385.8610 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



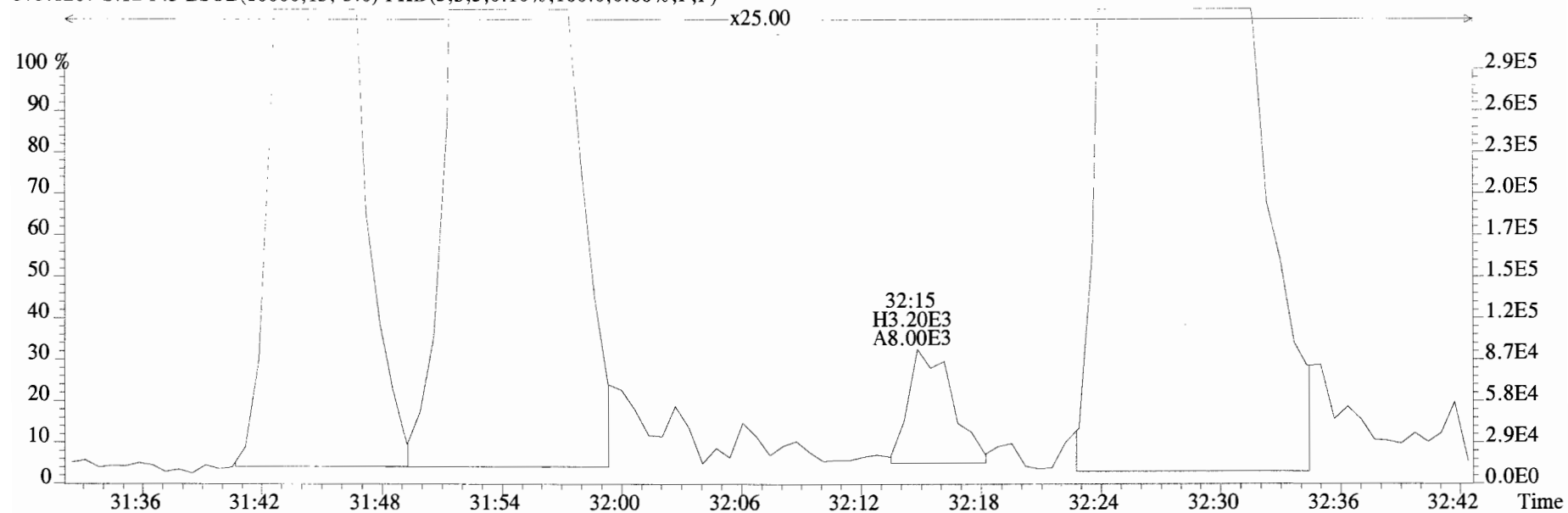
445.7555 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



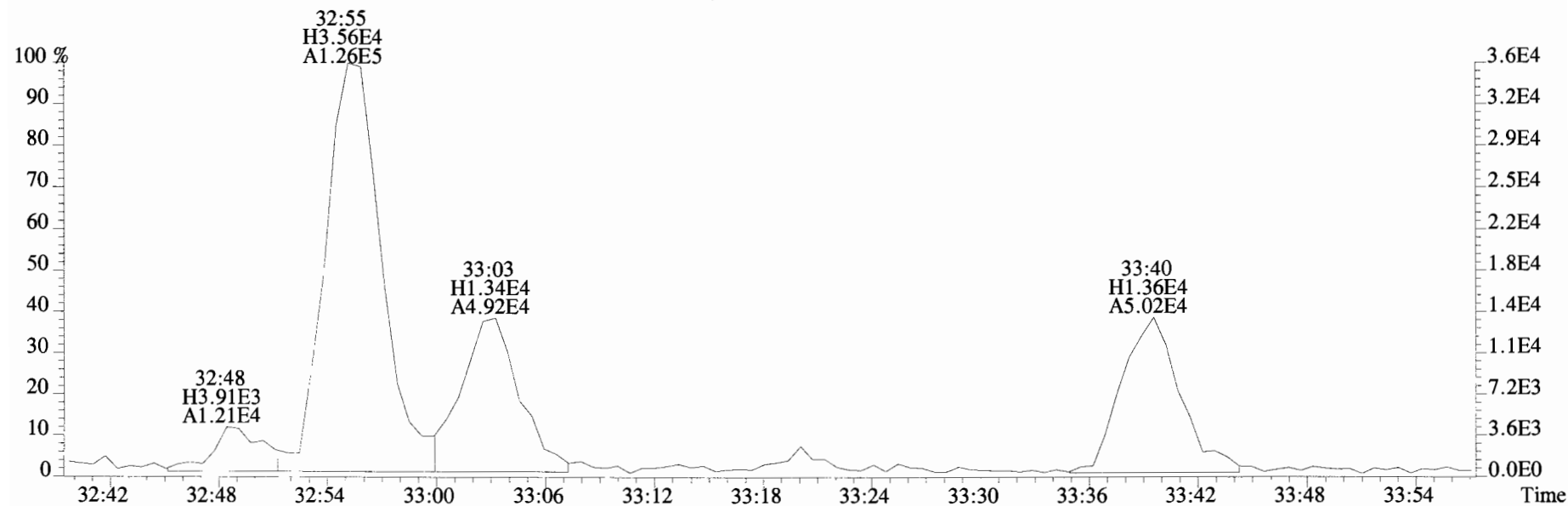
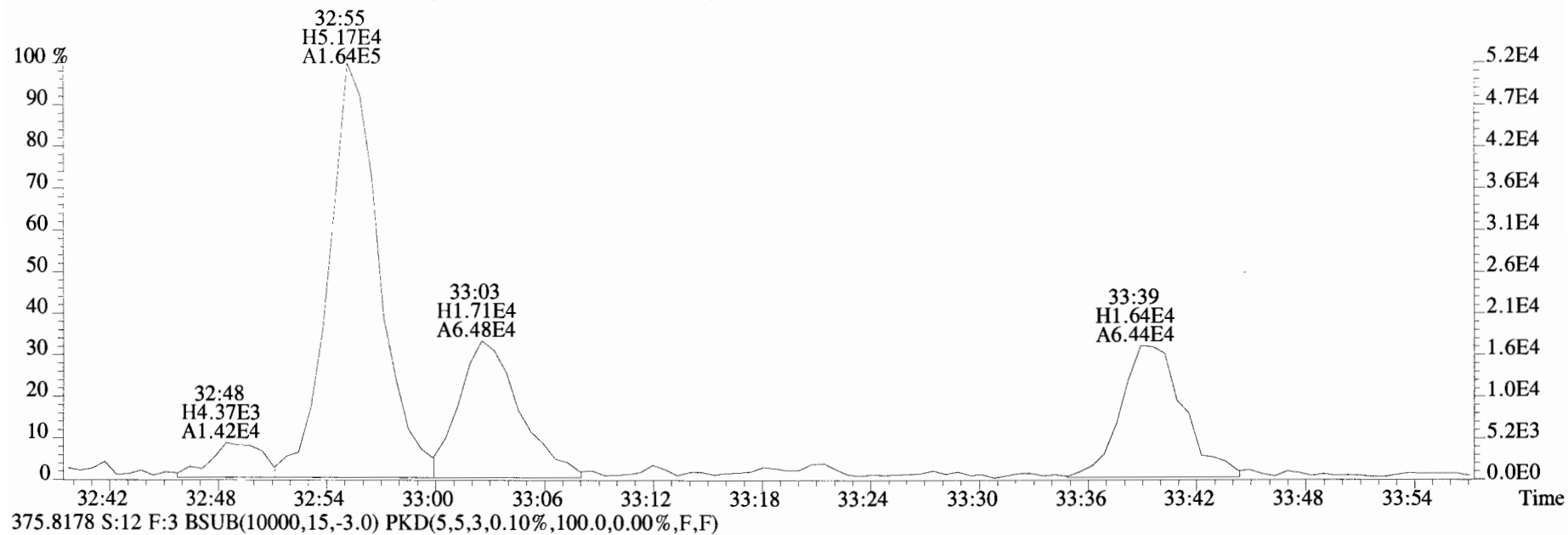
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



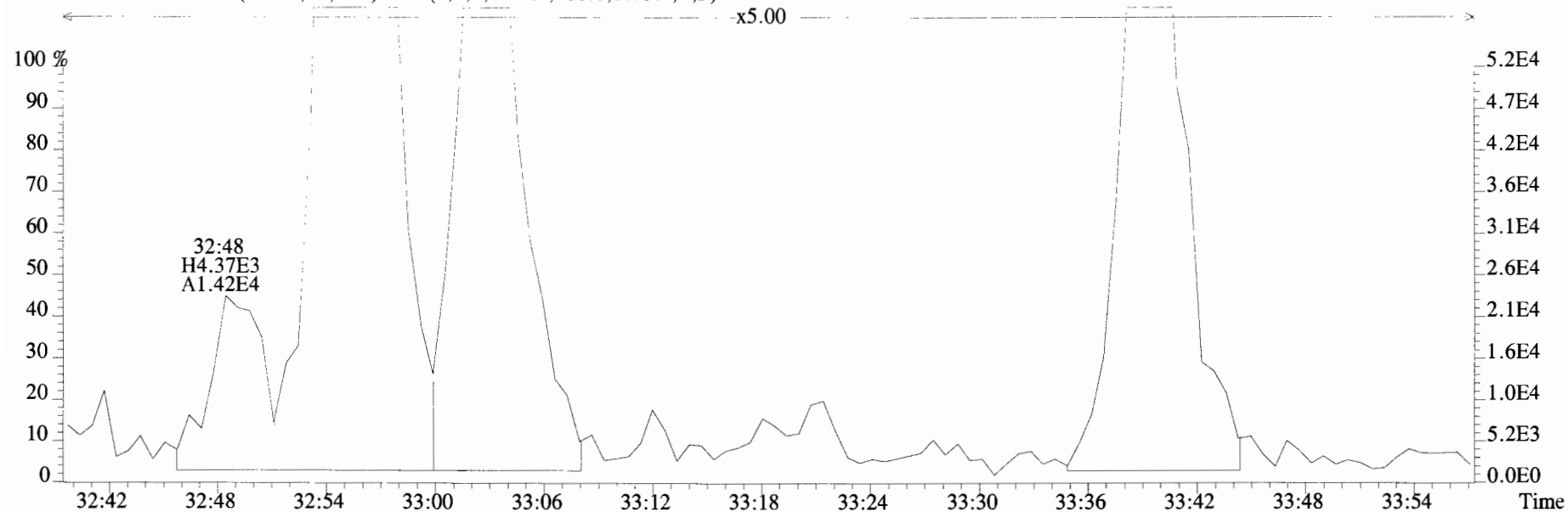
375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



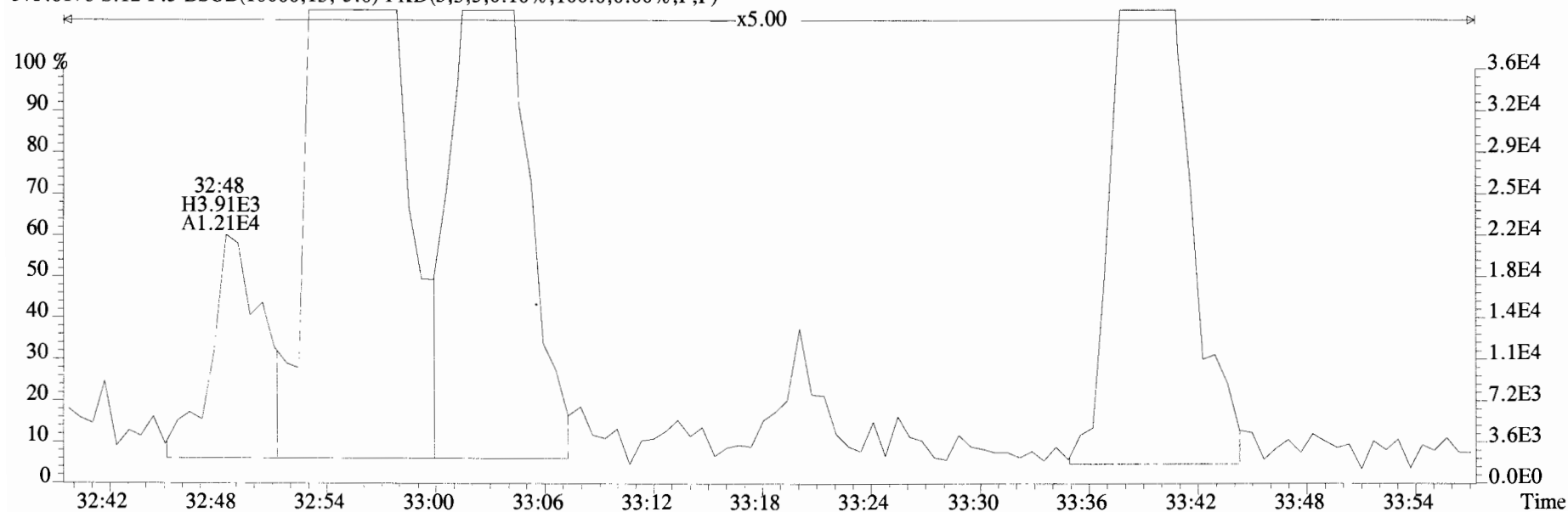
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



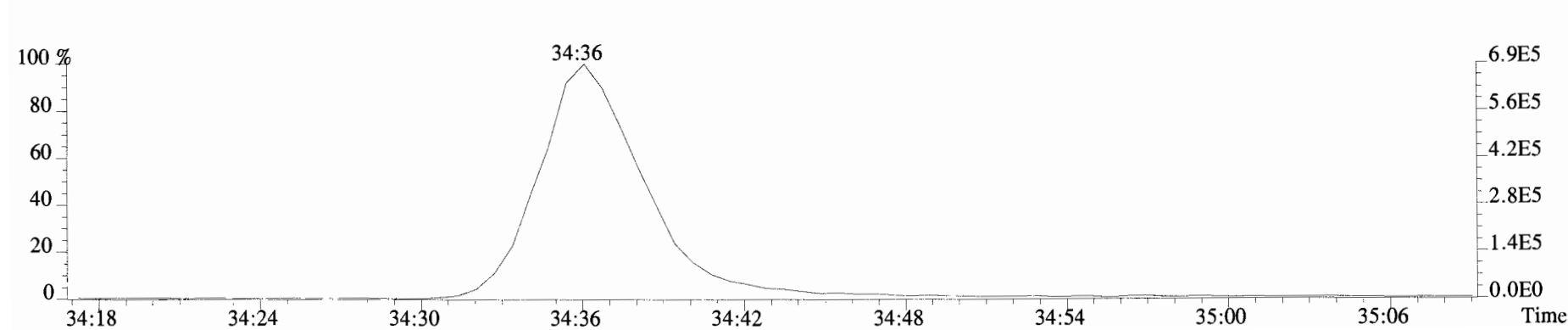
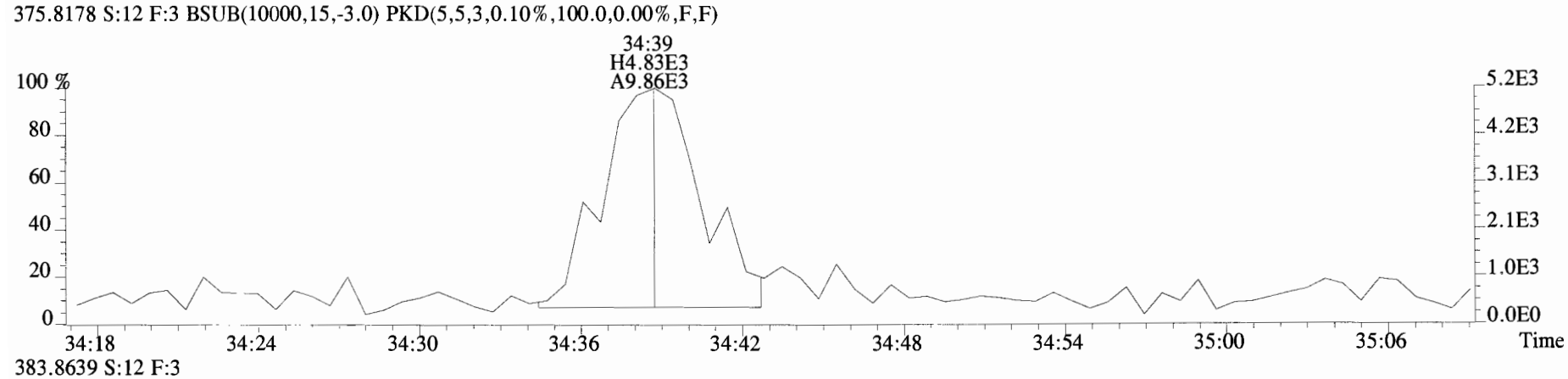
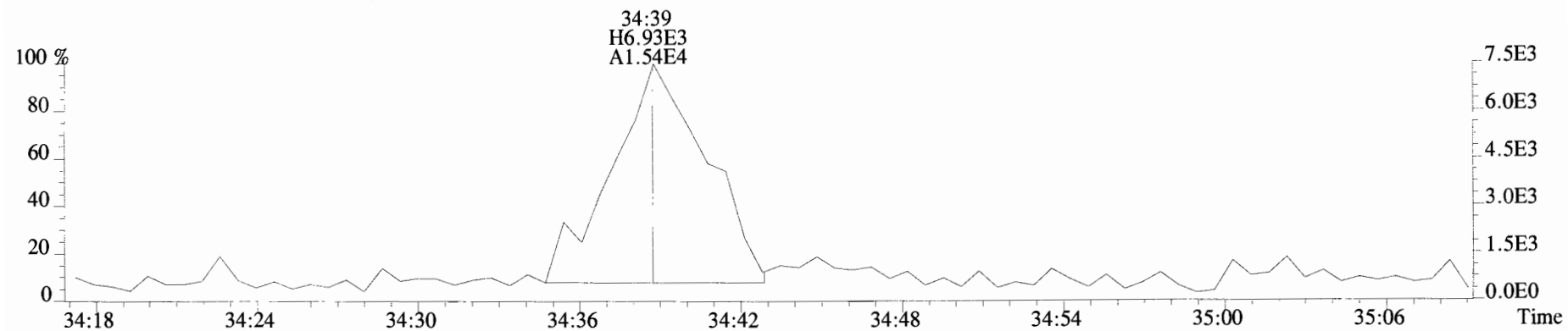
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



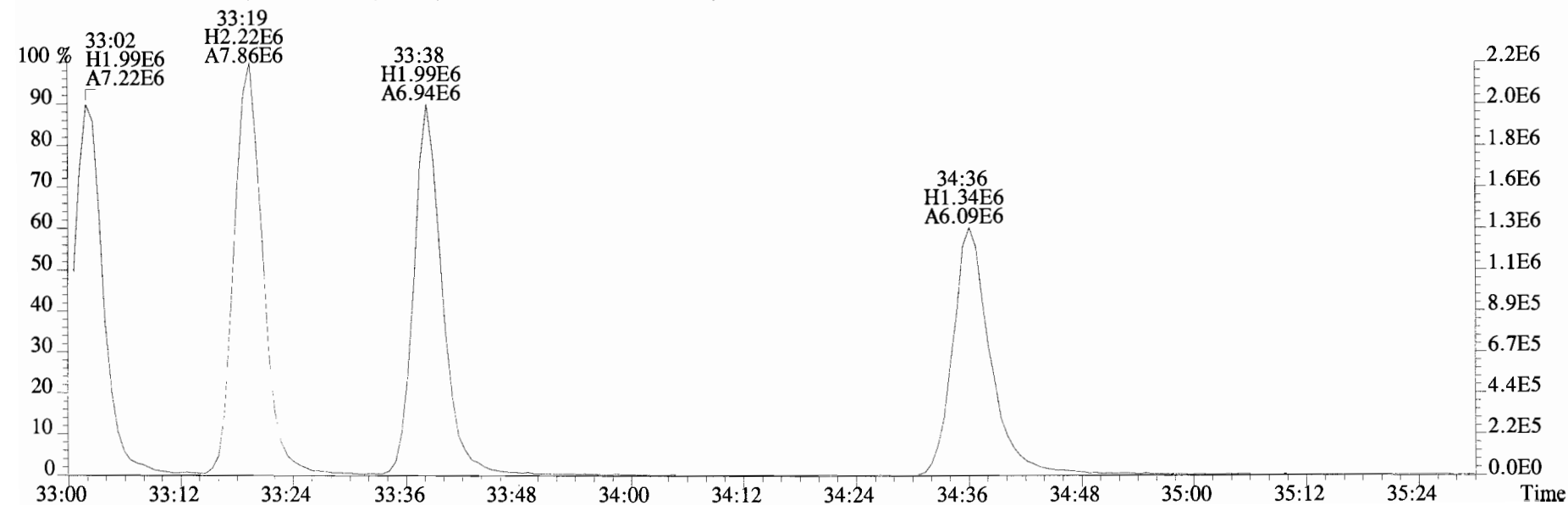
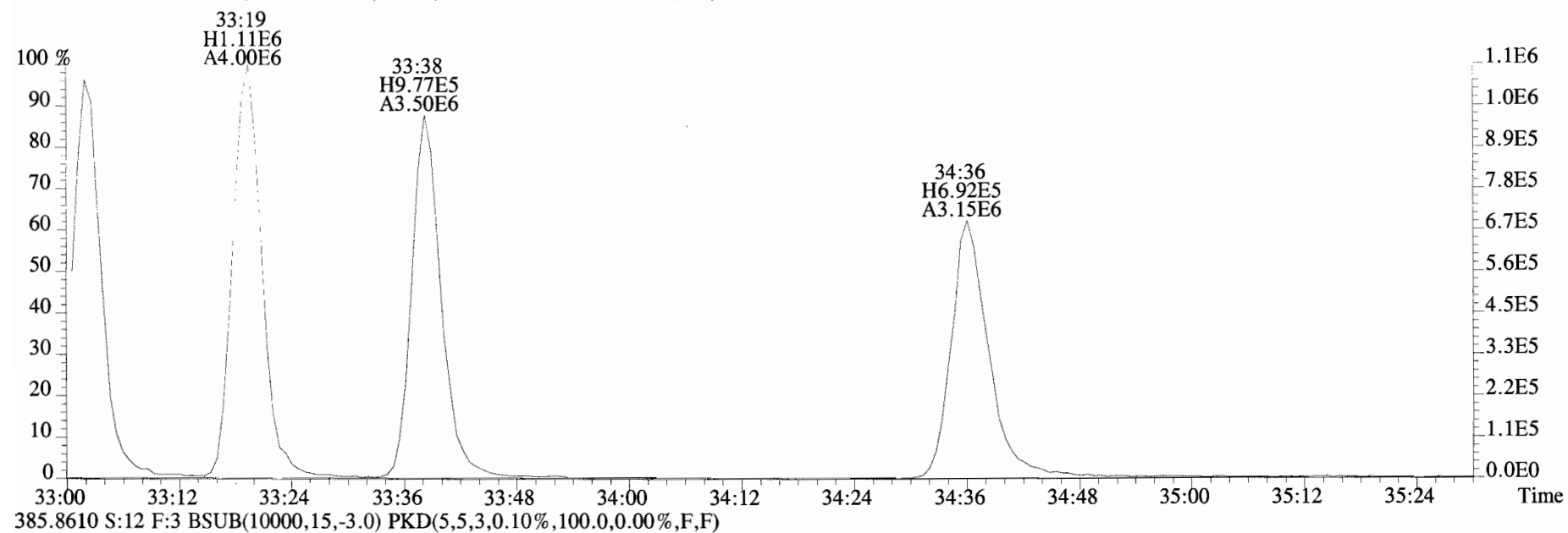
375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



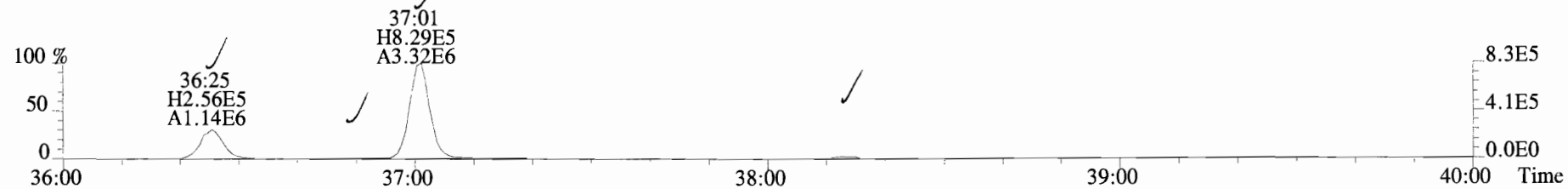
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



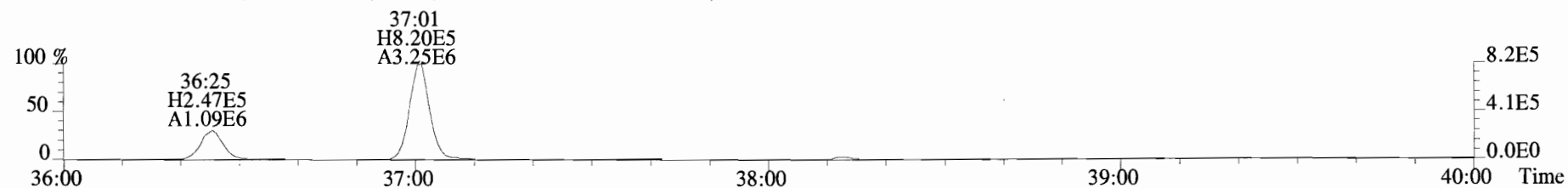
File:190626D2 #1-400 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



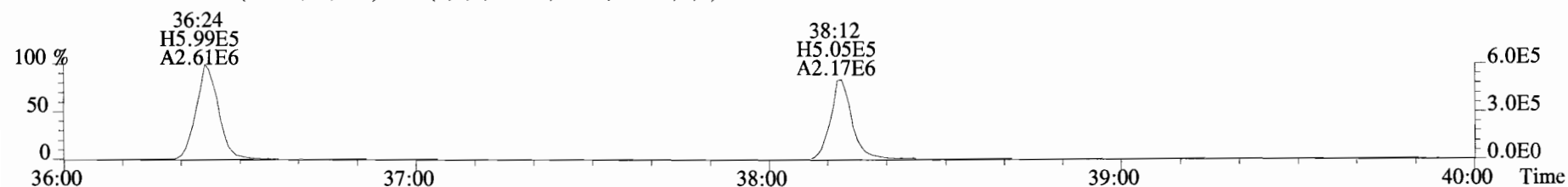
File:190626D2 #1-356 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



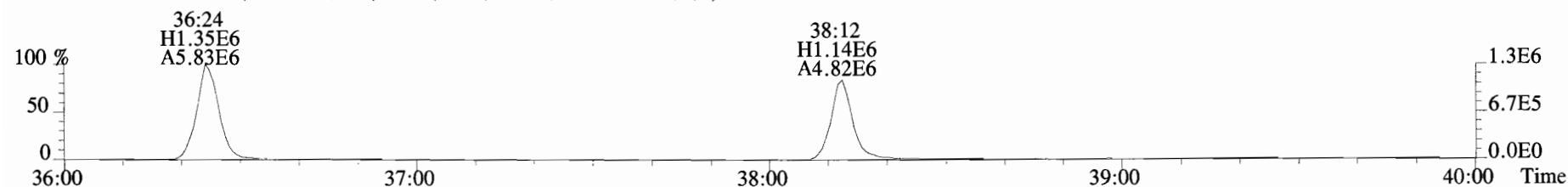
409.7788 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



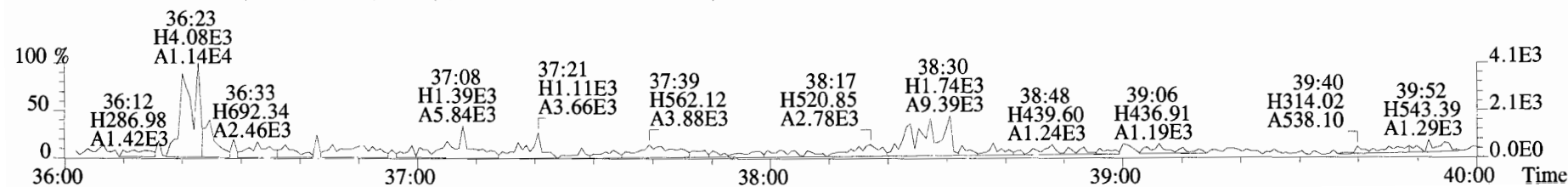
417.8253 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



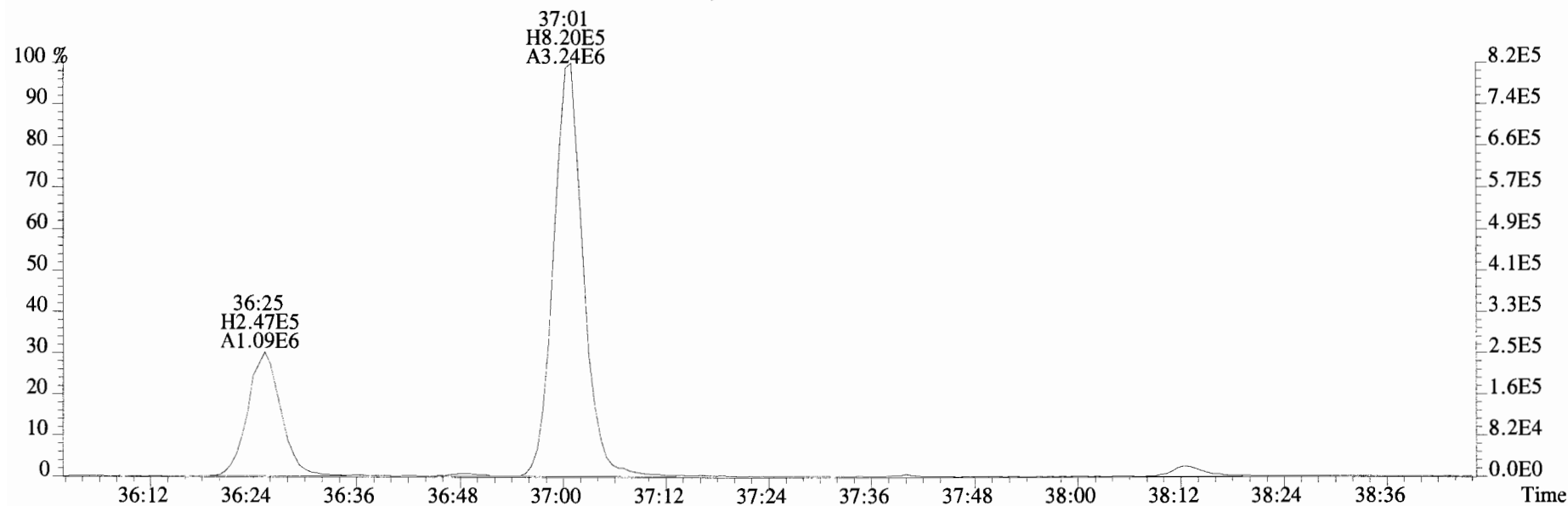
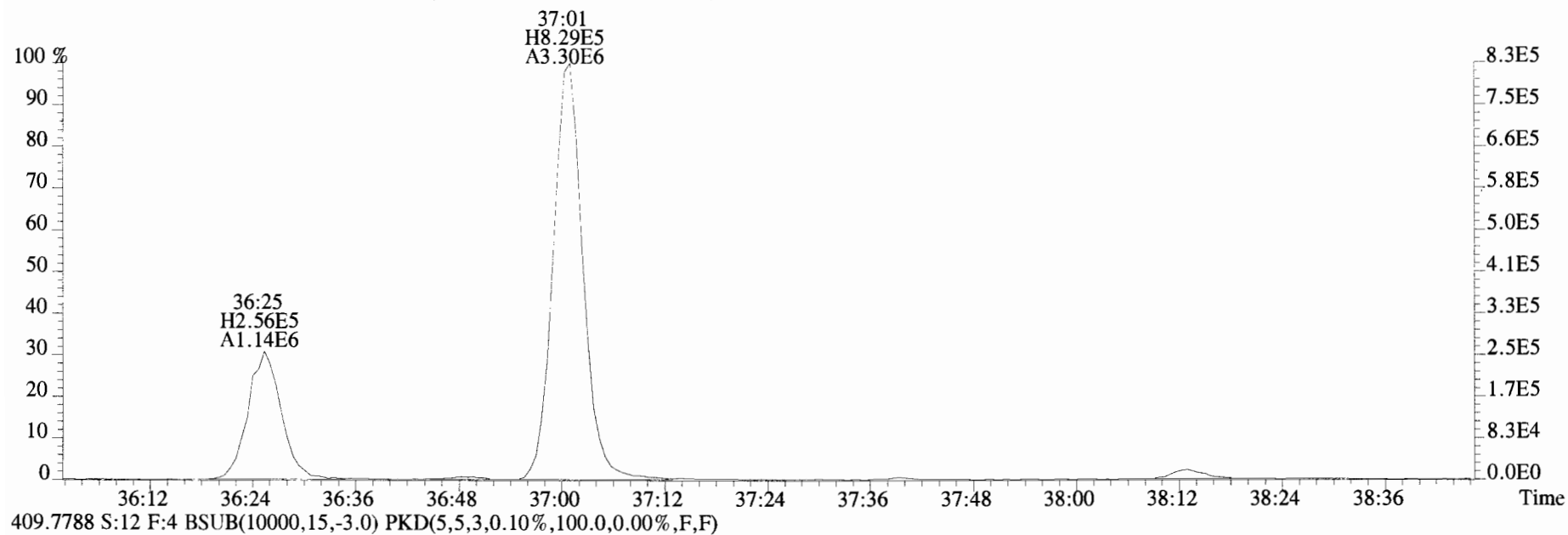
419.8220 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



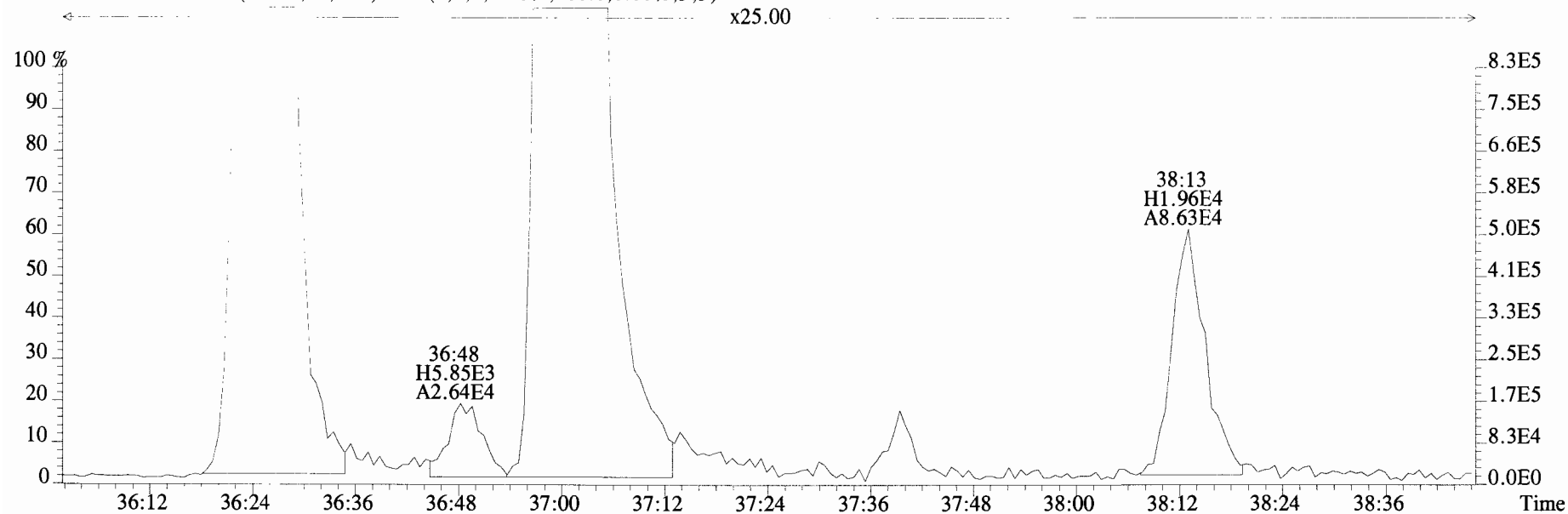
479.7165 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



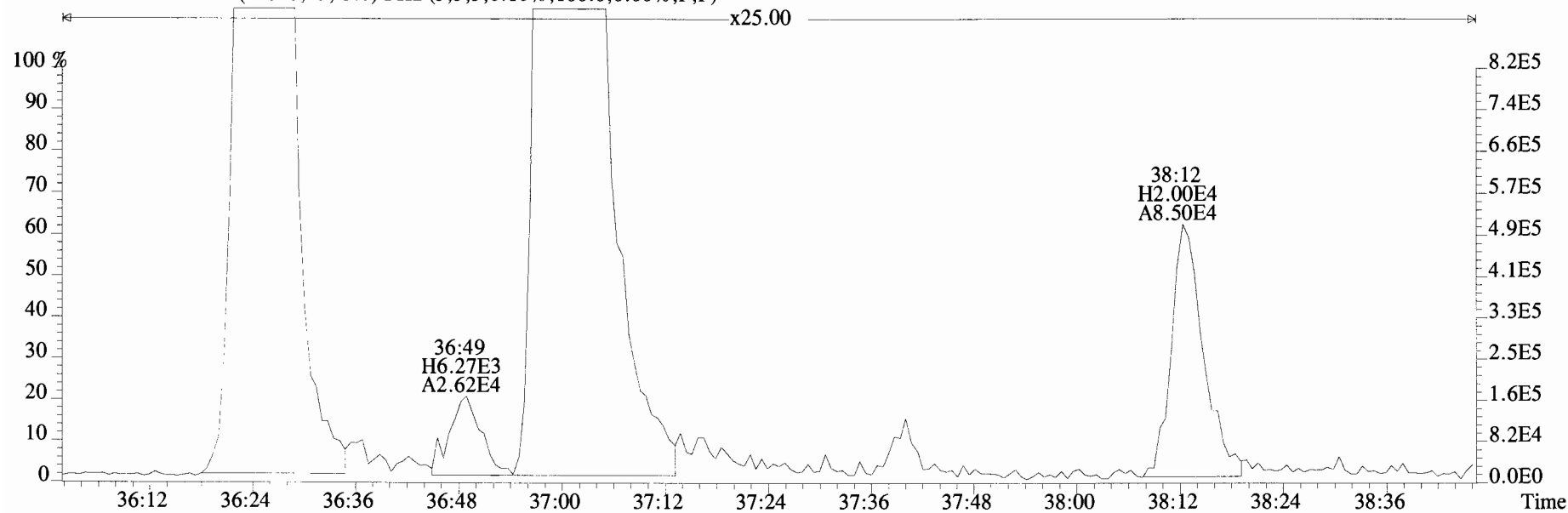
File:190626D2 #1-356 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-356 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
 407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



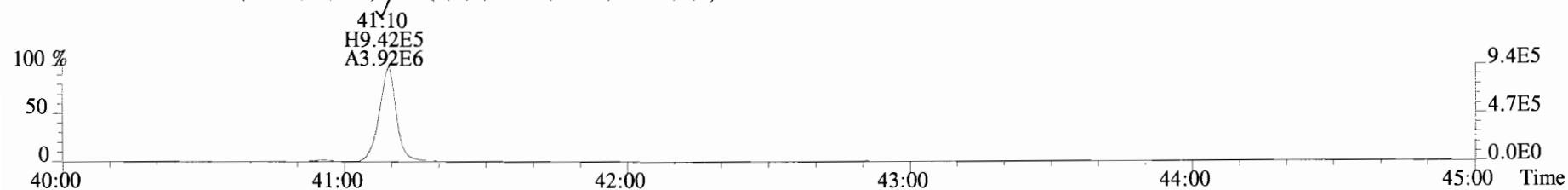
409.7788 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



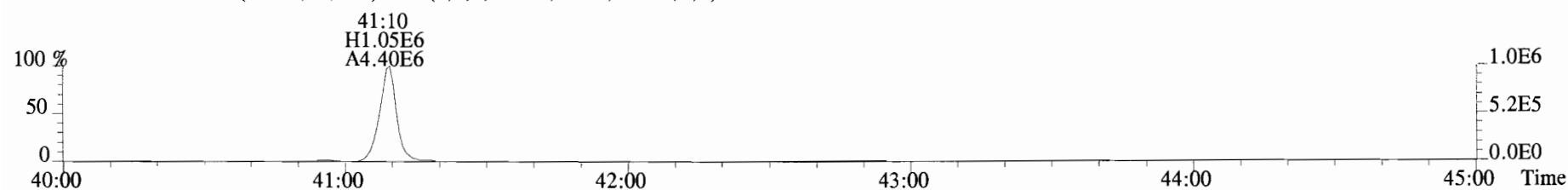
File:190626D2 #1-431 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE

Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5

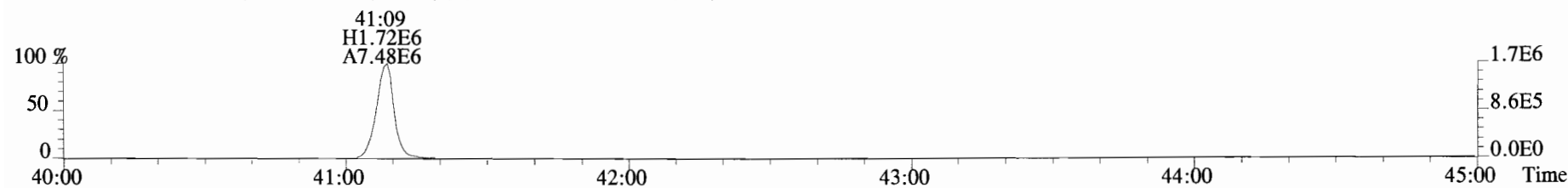
441.7428 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



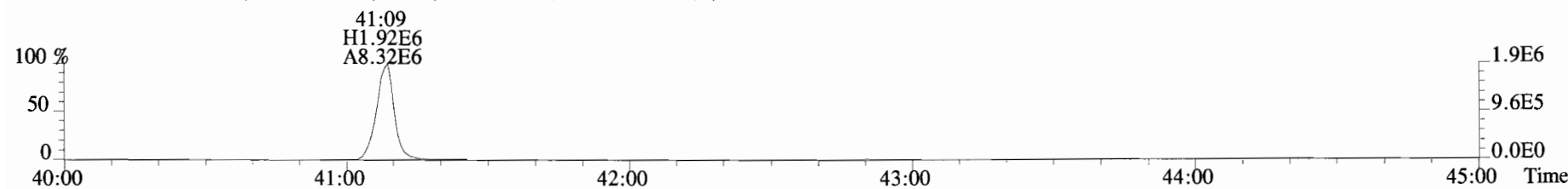
443.7398 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



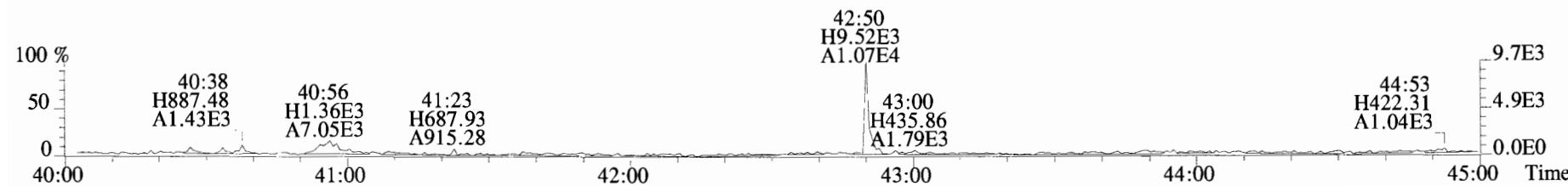
453.7831 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



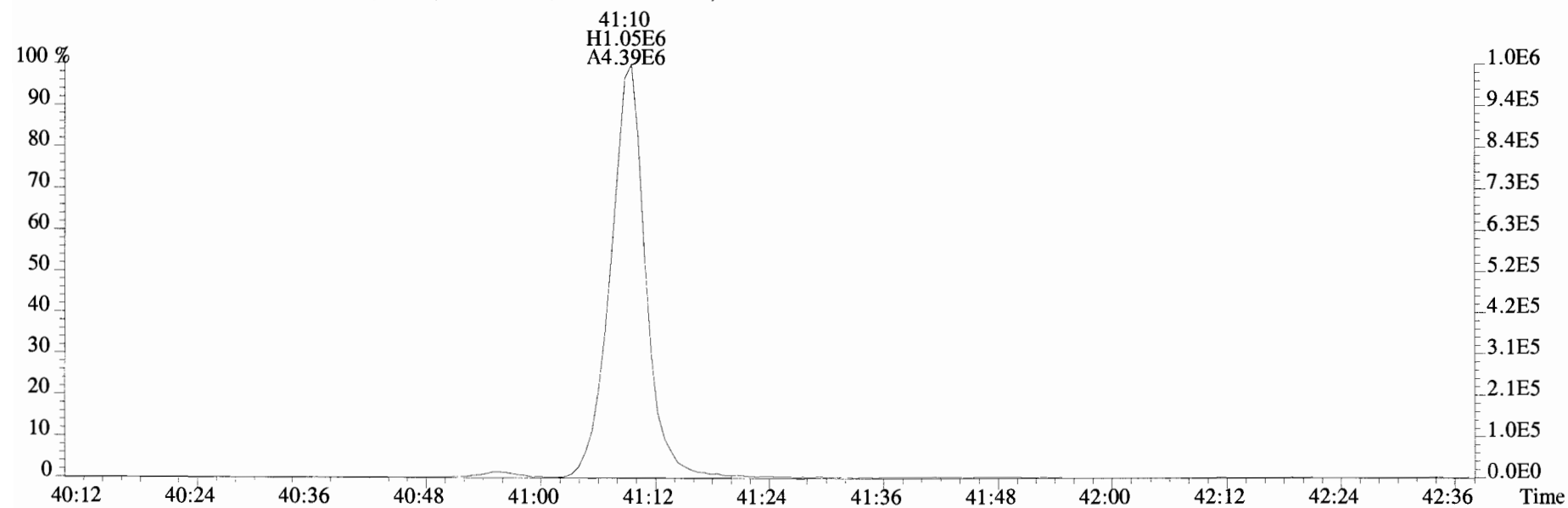
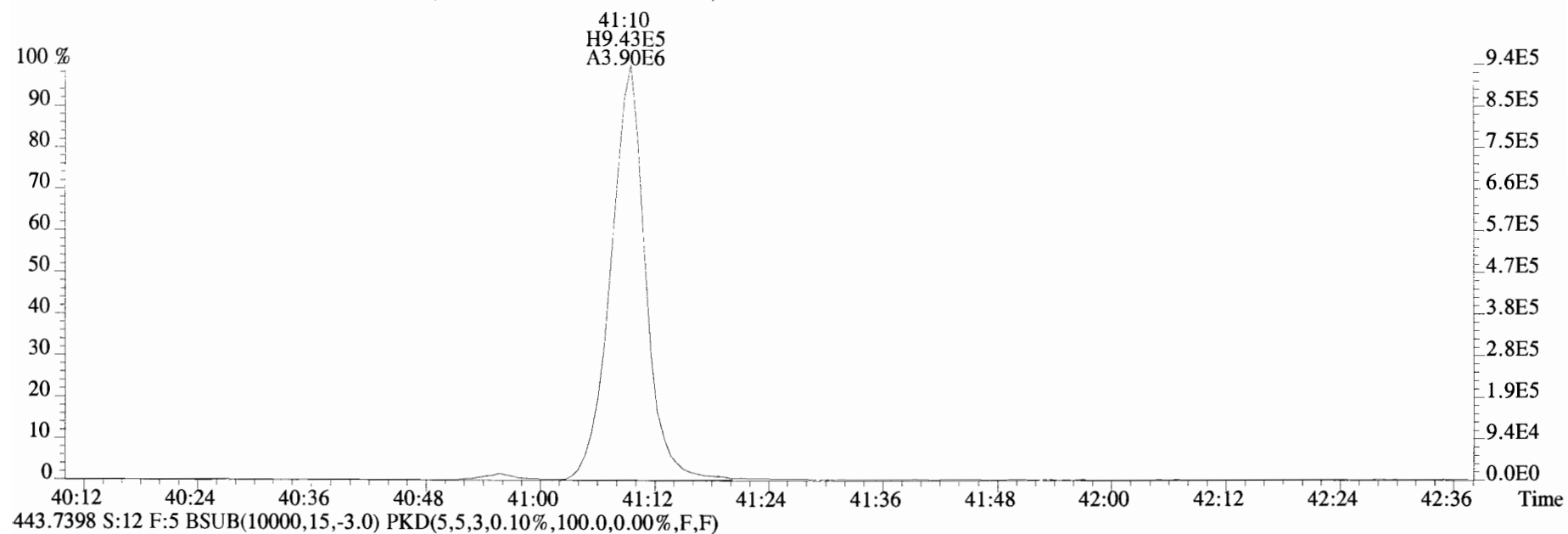
455.7801 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-431 Acq:27-JUN-2019 13:25:33 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 Text:1901246-02 T4-PDI2019-SC12-190521-03-05 8.21 Exp:OCDD_DB5
441.7428 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC12-190521 Filename: 190626D2 S:13 Acq:27-JUN-19 14:13:13
Lab ID: 1901246-03 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.020

ConCal: ST190626D2-1
EndCAL: NA

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Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	7.57e+03	0.42 n	0.90	26:00	0.39361		* 2.5		*
1,2,3,7,8-PeCDD	2.04e+04	0.72 y	0.87	30:30	1.1003		* 2.5		*
1,2,3,4,7,8-HxCDD	3.47e+04	1.33 y	1.05	33:48	1.8966		* 2.5		*
1,2,3,6,7,8-HxCDD	2.03e+05	1.30 y	0.93	33:54	10.791		* 2.5		*
1,2,3,7,8,9-HxCDD	8.47e+04	1.28 y	0.96	34:13	4.2811		* 2.5		*
1,2,3,4,6,7,8-HpCDD	4.23e+06	1.03 y	0.99	37:39	243.77		* 2.5		*
OCDD	4.23e+07	0.89 y	0.99	40:55	2623.8		* 2.5		*
2,3,7,8-TCDF	6.34e+04	0.76 y	0.94	25:17	2.5009		* 2.5		*
1,2,3,7,8-PeCDF	4.88e+04	1.68 y	0.92	29:20	1.7707		* 2.5		*
2,3,4,7,8-PeCDF	3.42e+04	1.54 y	0.96	30:14	1.1958		* 2.5		*
1,2,3,4,7,8-HxCDF	1.14e+05	1.32 y	1.15	32:55	4.7858		* 2.5		*
1,2,3,6,7,8-HxCDF	5.57e+04	1.06 y	1.04	33:02	2.1474		* 2.5		*
2,3,4,6,7,8-HxCDF	4.98e+04	1.13 y	1.10	33:39	1.9663		* 2.5		*
1,2,3,7,8,9-HxCDF	1.81e+04	0.99 n	1.03	34:37	0.84672		* 2.5		*
1,2,3,4,6,7,8-HpCDF	5.85e+05	1.01 y	1.06	36:25	28.471		* 2.5		*
1,2,3,4,7,8,9-HpCDF	4.91e+04	1.02 y	1.23	38:13	2.4225		* 2.5		*
OCDF	1.41e+06	0.89 y	0.94	41:09	80.666		* 2.5		*

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	0.438	2.11		*	*
Total Penta-Dioxins	5.34	9.45		*	*
Total Hexa-Dioxins	85.1	85.1		*	*
Total Hepta-Dioxins	718	718		*	*
Total Tetra-Furans	9.02	9.97		*	*
Total Penta-Furans	18.947	20.367		*	*
Total Hexa-Furans	55.7	56.5		*	*
Total Hepta-Furans	99.0	99.0		*	*

IS	13C-2,3,7,8-TCDD	8.50e+06	0.81 y	1.11	26:01	298.35
IS	13C-1,2,3,7,8-PeCDD	8.45e+06	0.62 y	0.98	30:30	335.98
IS	13C-1,2,3,4,7,8-HxCDD	6.94e+06	1.31 y	0.68	33:47	386.29
IS	13C-1,2,3,6,7,8-HxCDD	8.07e+06	1.25 y	0.84	33:54	360.36
IS	13C-1,2,3,7,8,9-HxCDD	8.19e+06	1.26 y	0.81	34:12	379.25
IS	13C-1,2,3,4,6,7,8-HpCDD	7.00e+06	1.05 y	0.69	37:39	383.62
IS	13C-OCDD	1.30e+07	0.91 y	0.62	40:54	784.02
IS	13C-2,3,7,8-TCDF	1.07e+07	0.78 y	1.05	25:16	247.01
IS	13C-1,2,3,7,8-PeCDF	1.19e+07	1.60 y	0.95	29:20	302.51
IS	13C-2,3,4,7,8-PeCDF	1.19e+07	1.60 y	0.94	30:14	308.49
IS	13C-1,2,3,4,7,8-HxCDF	8.23e+06	0.51 y	0.86	32:54	360.85
IS	13C-1,2,3,6,7,8-HxCDF	9.96e+06	0.53 y	1.02	33:02	366.46
IS	13C-2,3,4,6,7,8-HxCDF	9.21e+06	0.51 y	0.95	33:38	363.49
IS	13C-1,2,3,7,8,9-HxCDF	8.25e+06	0.52 y	0.87	34:36	357.58
IS	13C-1,2,3,4,6,7,8-HpCDF	7.69e+06	0.44 y	0.81	36:25	357.67
IS	13C-1,2,3,4,7,8,9-HpCDF	6.59e+06	0.44 y	0.63	38:12	392.07
IS	13C-OCDF	1.48e+07	0.88 y	0.78	41:09	711.83

Rec Qual

74.9
84.3
97.0
90.5
95.2
96.3
98.4
62.0
75.9
77.4
90.6
92.0
91.2
89.8
89.8
98.4
89.3

C/Up	37Cl-2,3,7,8-TCDD	3.55e+06		1.22	26:02	113.14
RS/RT	13C-1,2,3,4-TCDD	1.03e+07	0.78 y	1.00	25:26	398.40
RS	13C-1,2,3,4-TCDF	1.64e+07	0.80 y	1.00	24:02	398.40
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.06e+07	0.51 y	1.00	33:19	398.40

Integrations
by
Analyst: DB

Date: 7/29/19

Reviewed
by
Analyst: CT

Date: 08/08/19

Totals class: TCDD EMPC

Entry #: 19

Run: 18

File: 190626D2

S: 13 I: 1 F: 1

Acquired: 27-JUN-19 14:13:13

Processed: 27-JUN-19 17:02:10

Total Concentration: 2.1105

Unnamed Concentration: 1.717

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
22:39	7.453e+03	1.236e+04	0.60	n	1.713e+04	0.89102
23:01	3.767e+03	4.661e+03	0.81	y	8.428e+03	0.43832
25:48	3.242e+03	8.937e+03	0.36	n	7.451e+03	0.38753
26:00	3.292e+03	7.766e+03	0.42	n	7.568e+03	0.39361
						2,3,7,8-TCDD

Totals class: PeCDD EMPC

Entry #: 21

Run: 18

File: 190626D2

S: 13 I: 1 F: 2

Acquired: 27-JUN-19 14:13:13

Processed: 27-JUN-19 17:02:10

Total Concentration: 9.4504

Unnamed Concentration: 8.350

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:27	1.694e+04	2.989e+04	0.57 y	4.683e+04	2.5313
28:54	7.596e+03	8.877e+03	0.86 n	1.447e+04	0.78223
29:20	1.310e+04	1.568e+04	0.84 n	2.556e+04	1.3816
29:31	1.035e+04	1.545e+04	0.67 y	2.580e+04	1.3949
29:36	6.432e+03	8.548e+03	0.75 n	1.393e+04	0.75319
29:49	8.514e+03	1.737e+04	0.49 n	2.203e+04	1.1909
30:30	8.517e+03	1.184e+04	0.72 y	2.035e+04	1.1003
30:51	2.447e+03	3.400e+03	0.72 y	5.847e+03	0.31608

1,2,3,7,8-PeCDD

Totals class: HxCDD EMPC

Entry #: 23

Run: 18

File: 190626D2

S: 13 I: 1 F: 3

Acquired: 27-JUN-19 14:13:13

Processed: 27-JUN-19 17:02:10

Total Concentration: 85.074

Unnamed Concentration: 68.106

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:16	3.147e+05	2.697e+05	1.17 y	5.844e+05	30.857
32:50	2.898e+04	2.167e+04	1.34 y	5.065e+04	2.6739
33:05	3.355e+05	2.679e+05	1.25 y	6.034e+05	31.858
33:13	2.729e+04	2.416e+04	1.13 y	5.145e+04	2.7165
33:48	1.979e+04	1.489e+04	1.33 y	3.468e+04	1.8966
33:54	1.149e+05	8.821e+04	1.30 y	2.032e+05	10.791
34:13	4.755e+04	3.714e+04	1.28 y	8.469e+04	4.2811

Totals class: HpCDD EMPC

Entry #: 25

Run: 18

File: 190626D2

S: 13 I: 1 F: 4

Acquired: 27-JUN-19 14:13:13

Processed: 27-JUN-19 17:02:10

Total Concentration: 718.44

Unnamed Concentration: 474.661

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:48	4.192e+06	4.052e+06	1.03 y	8.244e+06	474.66
37:39	2.148e+06	2.086e+06	1.03 y	4.234e+06	243.77 1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC

Entry #: 27

Run: 18

File: 190626D2

S: 13 I: 1 F: 1

Acquired: 27-JUN-19 14:13:13

Processed: 27-JUN-19 17:02:10

Total Concentration: 9.9694

Unnamed Concentration: 7.468

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
21:05	4.437e+03	5.205e+03	0.85 y	9.642e+03	0.38007
21:45	1.580e+04	2.005e+04	0.79 y	3.585e+04	1.4132
22:40	1.302e+04	1.866e+04	0.70 y	3.168e+04	1.2486
23:03	7.379e+03	7.563e+03	0.98 n	1.339e+04	0.52764
24:01	1.380e+04	1.657e+04	0.83 y	3.037e+04	1.1970
24:28	2.037e+04	2.550e+04	0.80 y	4.587e+04	1.8081
25:17	2.744e+04	3.600e+04	0.76 y	6.345e+04	2.5009
25:35	5.186e+03	6.687e+03	0.78 y	1.187e+04	0.46799
27:01	5.604e+03	6.105e+03	0.92 n	1.081e+04	0.42594

2,3,7,8-TCDF

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 18 File: 190626D2 S: 13 I: 1 F: 1
Acquired: 27-JUN-19 14:13:13 Processed: 27-JUN-19 17:02:10

Total Concentration: 8.5145 Unnamed Concentration: 8.515

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
26:59	1.379e+05	1.013e+05	1.36 y	2.392e+05	8.5145

Totals class: PeCDF EMPC

Entry #: 31

Run: 18

File: 190626D2

S: 13 I: 1 F: 2

Acquired: 27-JUN-19 14:13:13

Processed: 27-JUN-19 17:02:10

Total Concentration: 11.852

Unnamed Concentration: 8.886

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:18	1.439e+04	7.927e+03	1.81 n	2.021e+04	0.71956
28:26	7.095e+04	4.360e+04	1.63 y	1.146e+05	4.0780
28:59	2.904e+04	2.010e+04	1.45 y	4.914e+04	1.7492
29:10	8.257e+03	5.163e+03	1.60 y	1.342e+04	0.47775
29:20	3.063e+04	1.819e+04	1.68 y	4.883e+04	1.7707
29:34	2.039e+04	1.223e+04	1.67 y	3.262e+04	1.1614
30:14	2.075e+04	1.347e+04	1.54 y	3.422e+04	1.1958
30:17	1.605e+04	7.711e+03	2.08 n	1.966e+04	0.69999

Totals class: HxCDF EMPC

Entry #: 33

Run: 18

File: 190626D2

S: 13 I: 1 F: 3

Acquired: 27-JUN-19 14:13:13

Processed: 27-JUN-19 17:02:10

Total Concentration: 56.544

Unnamed Concentration: 46.797

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
31:44	7.806e+04	6.429e+04	1.21 y	1.423e+05	5.9060
31:53	2.154e+05	1.762e+05	1.22 y	3.916e+05	16.248
32:26	3.208e+05	2.640e+05	1.22 y	5.848e+05	24.263
32:55	6.474e+04	4.921e+04	1.32 y	1.140e+05	4.7858
33:02	2.864e+04	2.710e+04	1.06 y	5.574e+04	2.1474
33:39	2.644e+04	2.338e+04	1.13 y	4.982e+04	1.9663
34:37	9.999e+03	1.013e+04	0.99 n	1.806e+04	0.84672
34:40	5.374e+03	3.806e+03	1.41 y	9.180e+03	0.38087

Totals class: HpCDF EMPC

Entry #: 35

Run: 18

File: 190626D2

S: 13 I: 1 F: 4

Acquired: 27-JUN-19 14:13:13

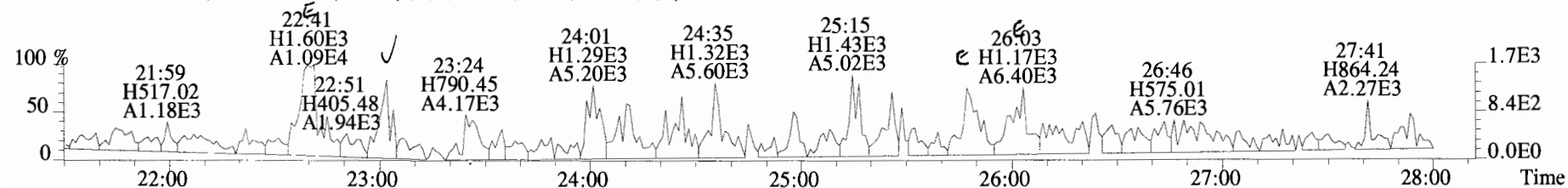
Processed: 27-JUN-19 17:02:10

Total Concentration: 98.966

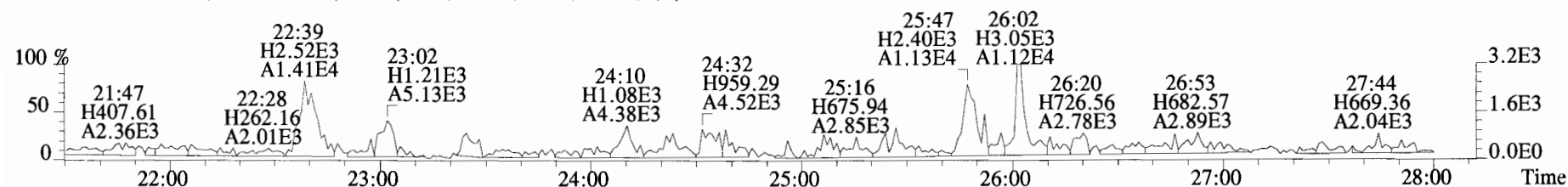
Unnamed Concentration: 68.072

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
36:25	2.943e+05	2.907e+05	1.01 y	5.850e+05	28.471	1,2,3,4,6,7,8-HpCDF
37:00	7.042e+05	6.803e+05	1.04 y	1.384e+06	68.072	
38:13	2.475e+04	2.436e+04	1.02 y	4.911e+04	2.4225	1,2,3,4,7,8,9-HpCDF

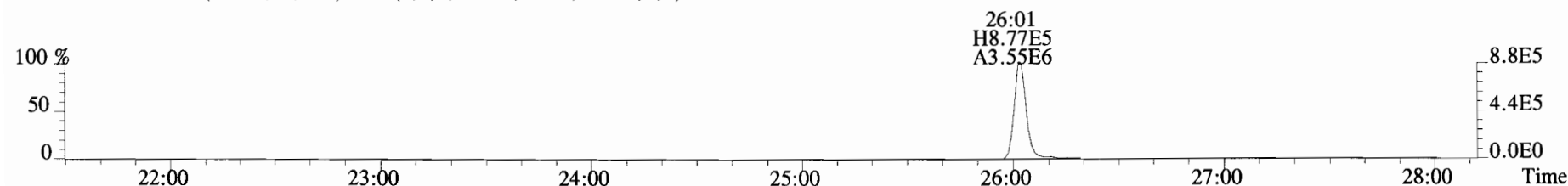
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



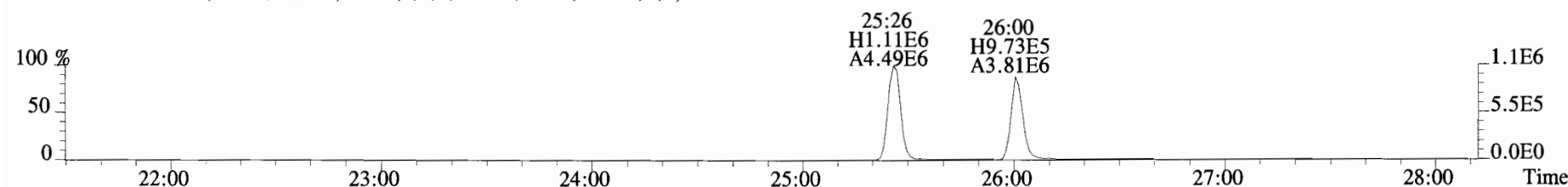
321.8936 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



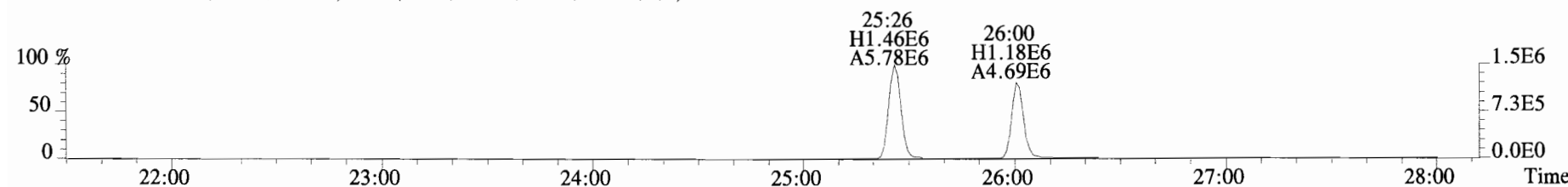
327.8847 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



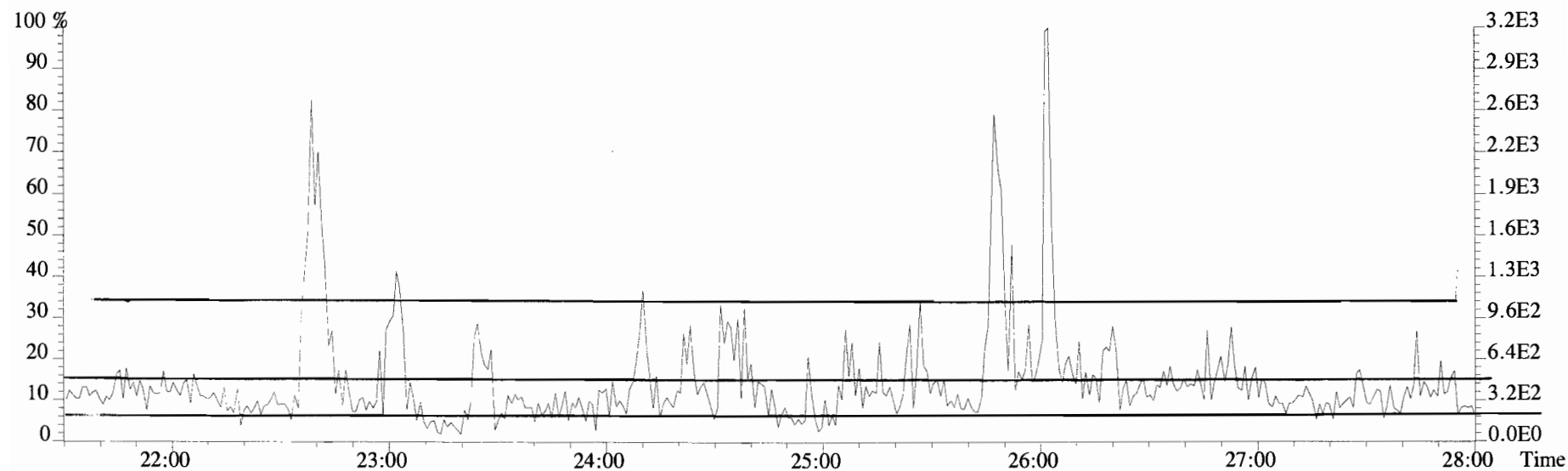
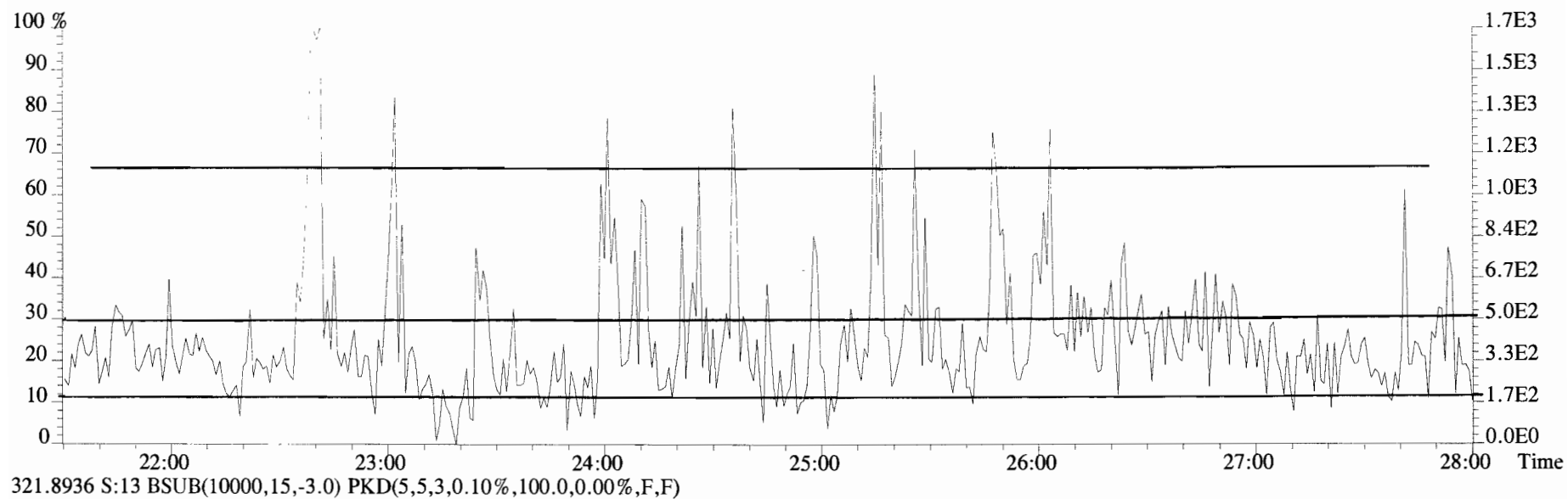
331.9368 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



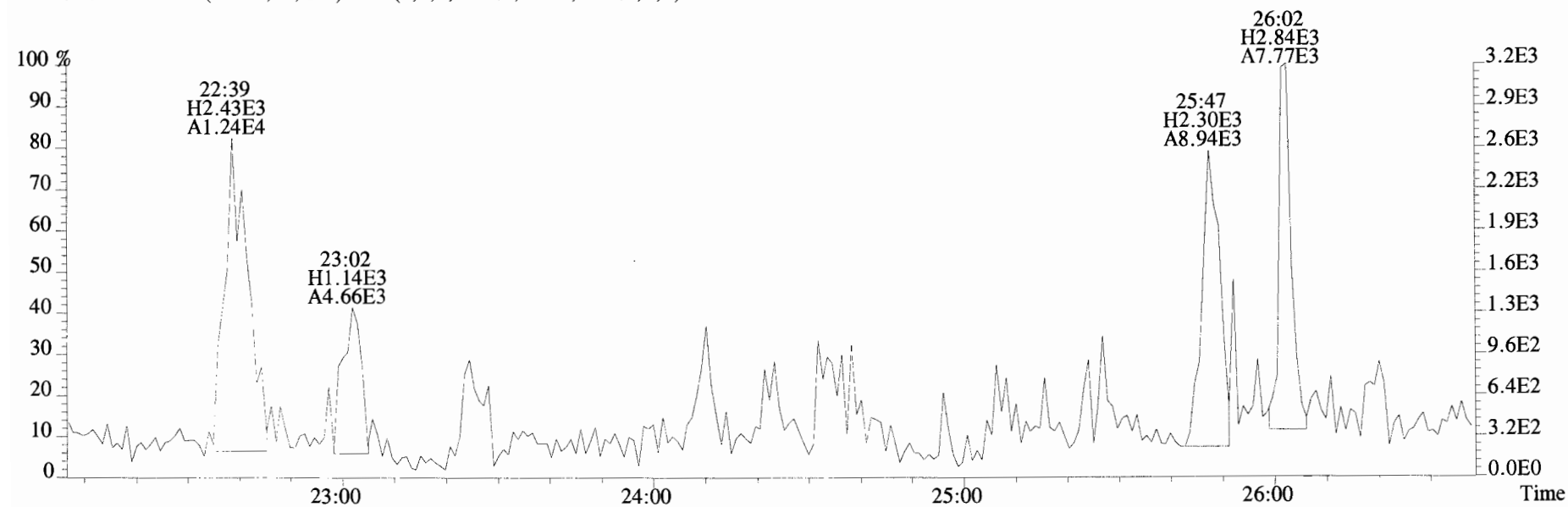
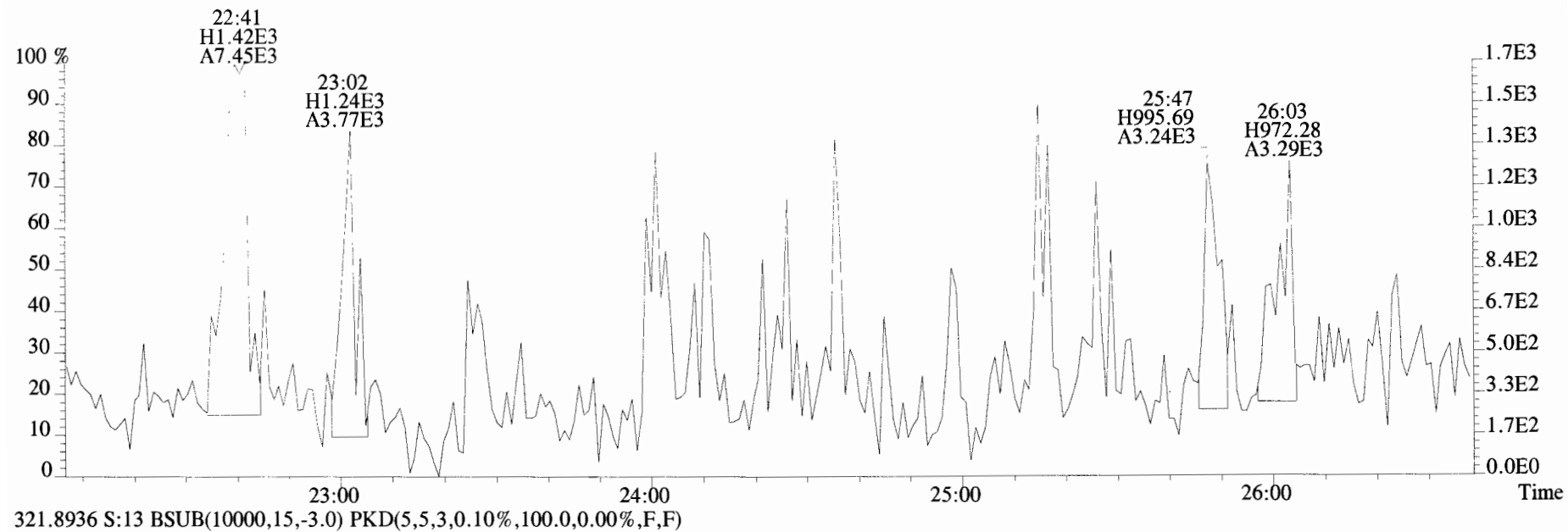
333.9339 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



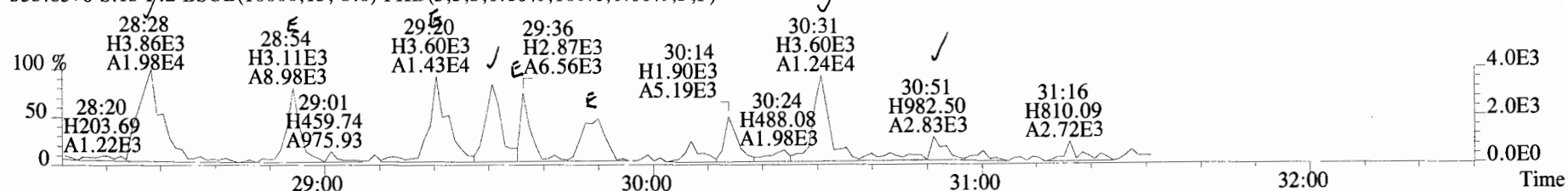
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



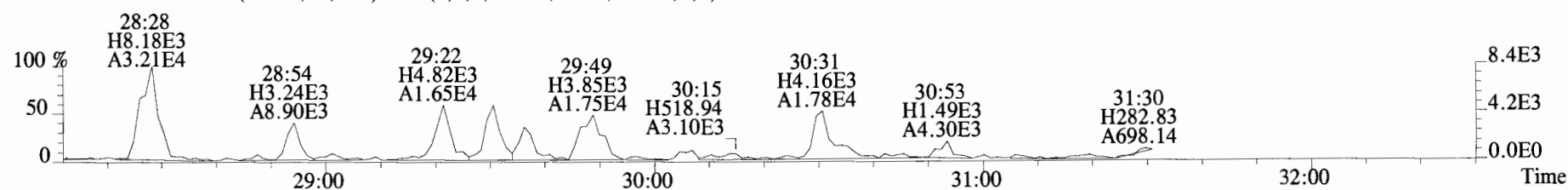
File:190626D2 #1-185 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE

Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5

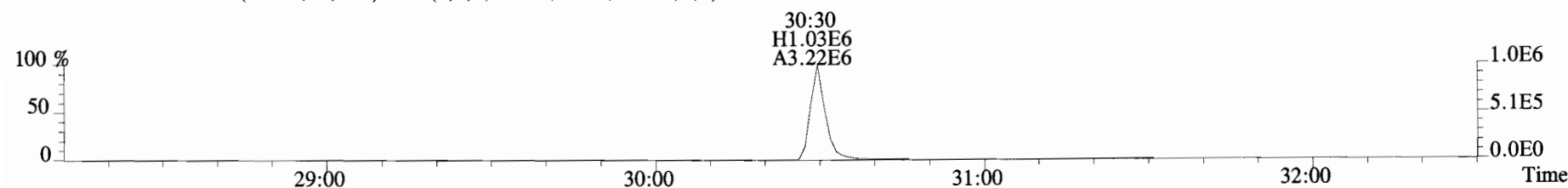
353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



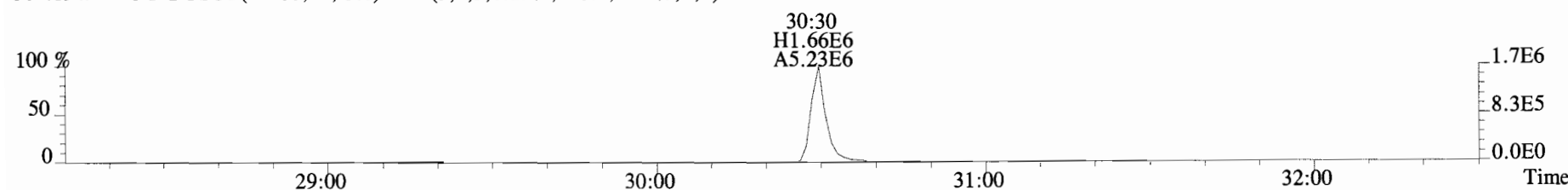
355.8546 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



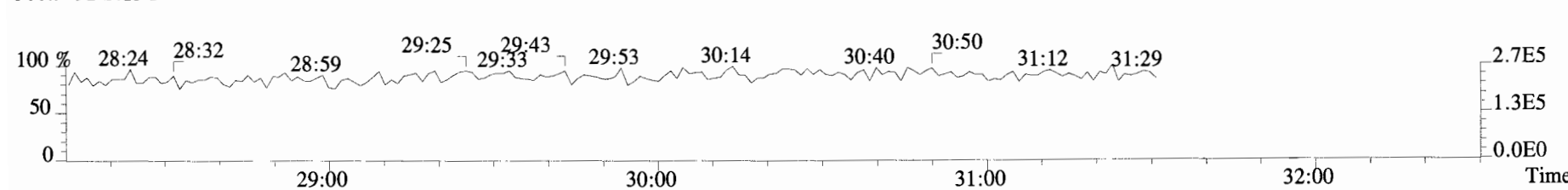
365.8978 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



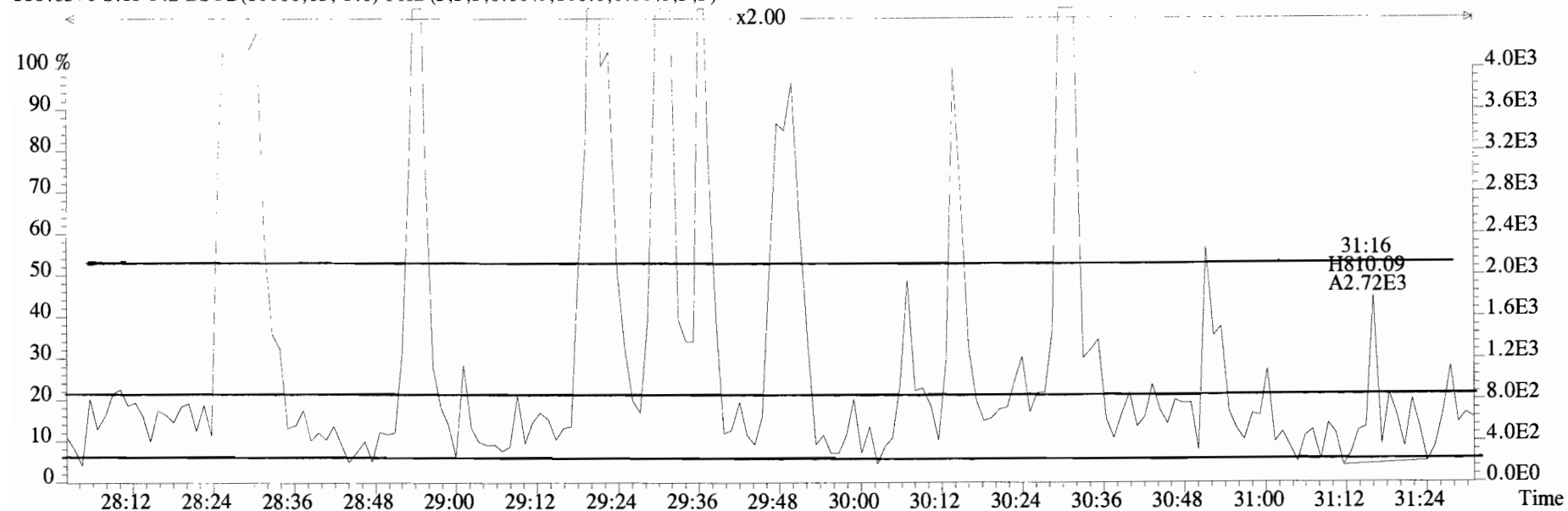
367.8949 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



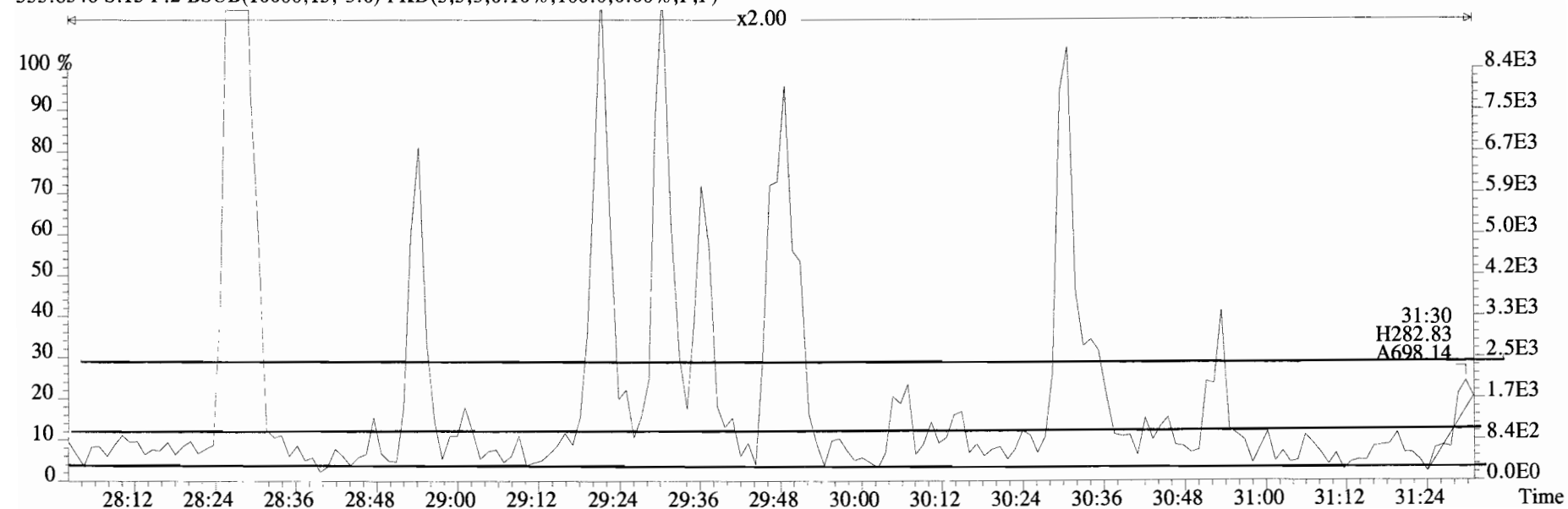
366.9792 S:13 F:2



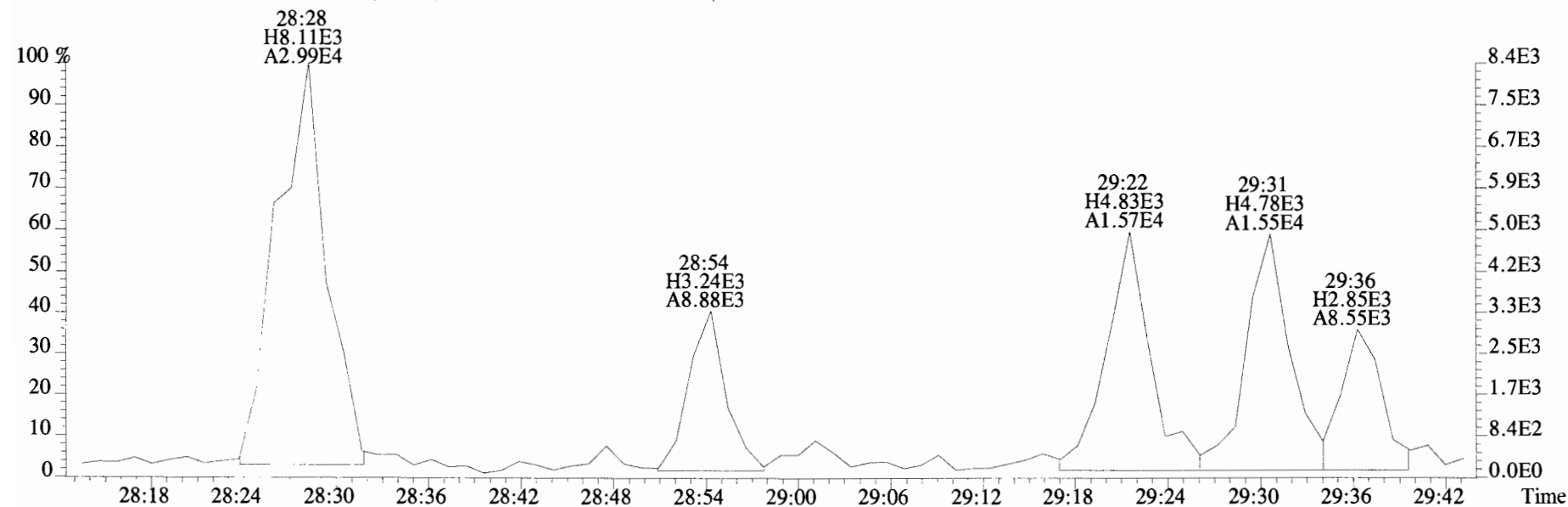
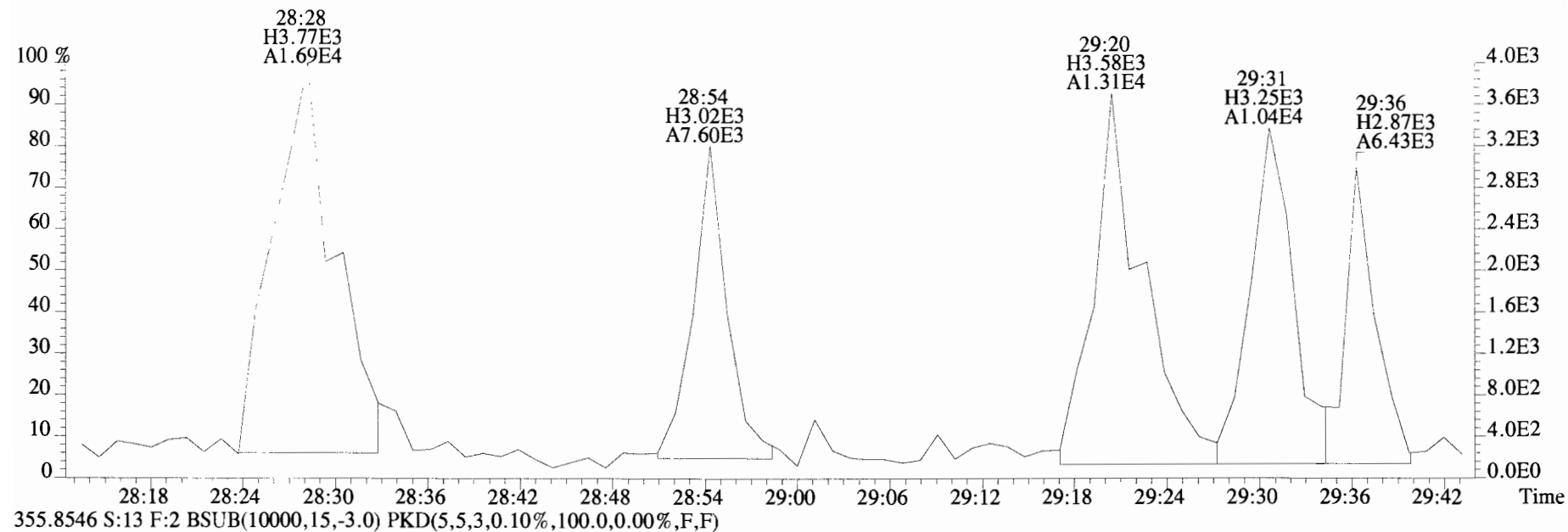
File:190626D2 #1-185 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



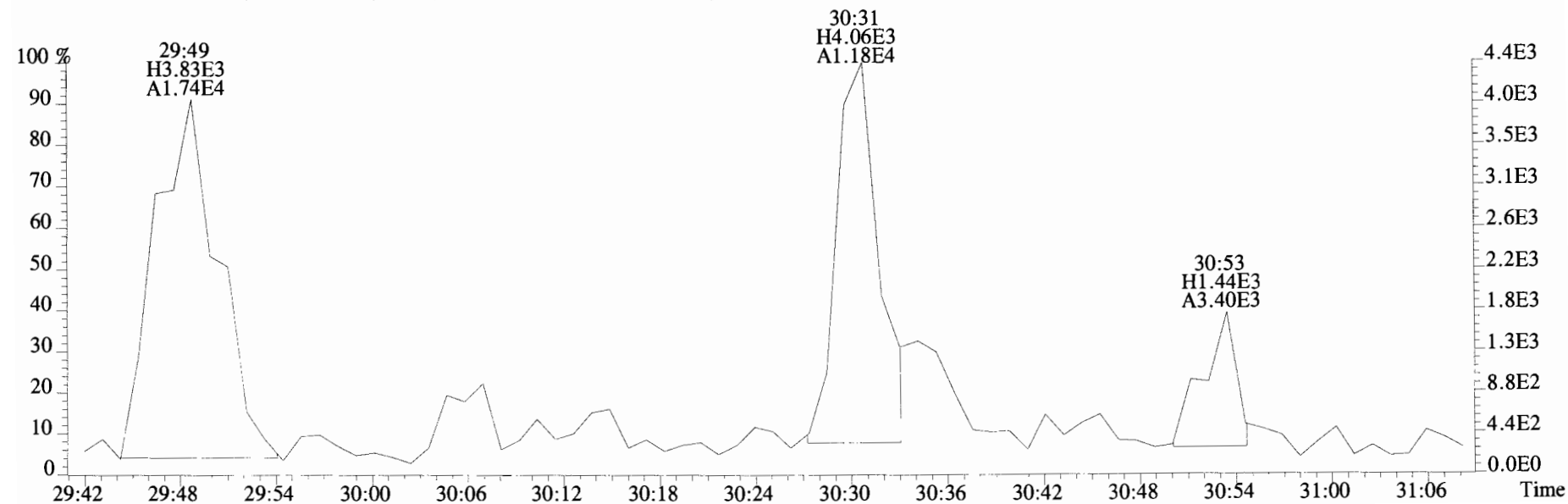
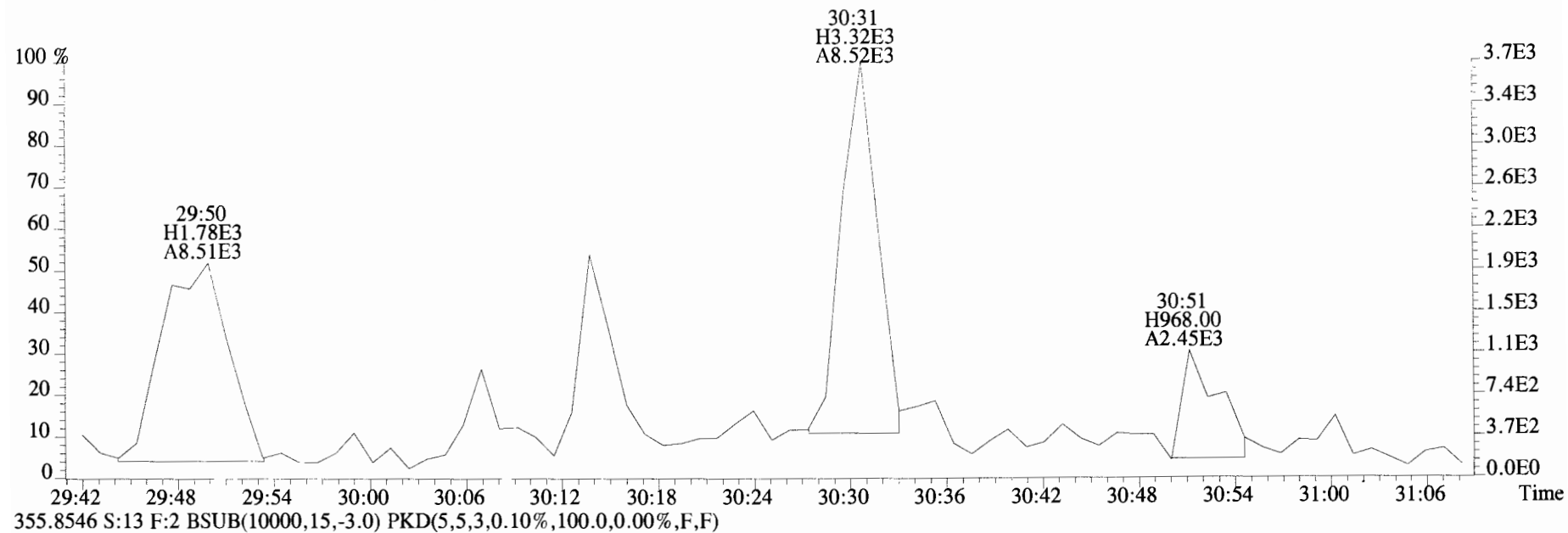
355.8546 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



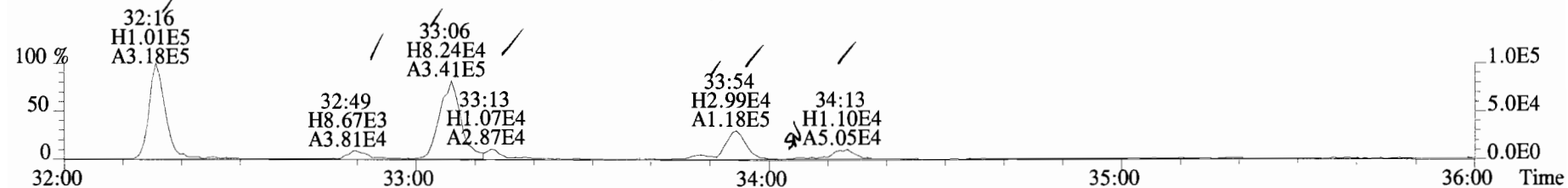
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 Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
 353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



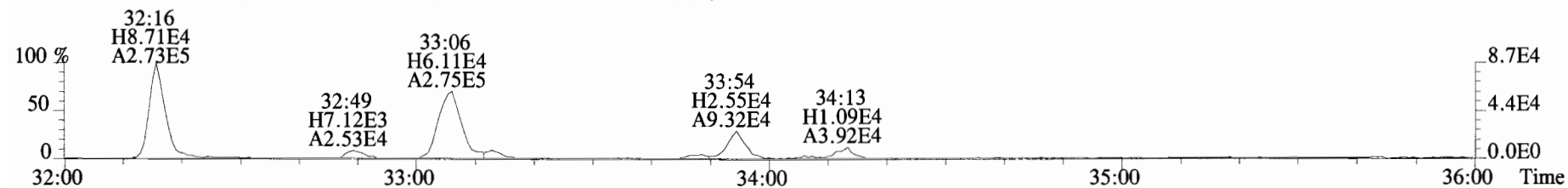
File:190626D2 #1-185 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
 353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



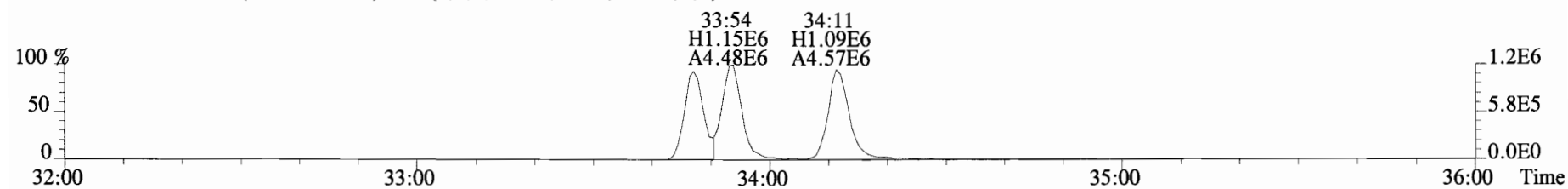
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
 389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



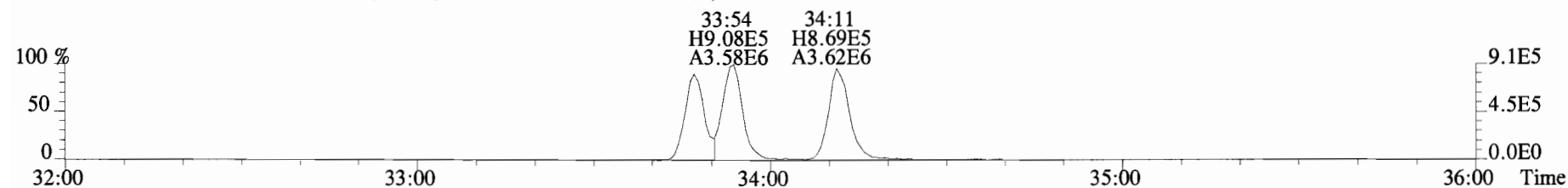
391.8127 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



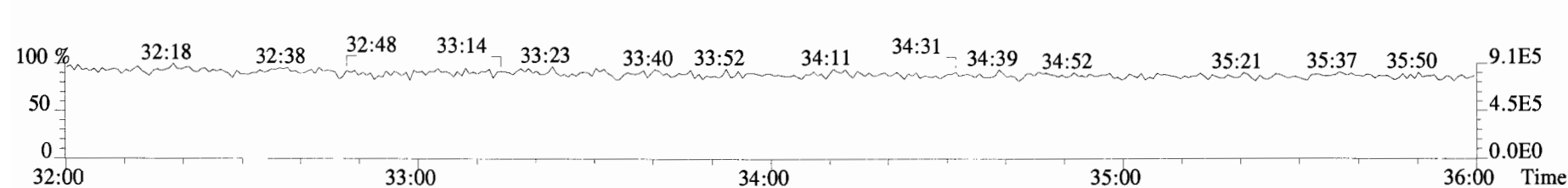
401.8559 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



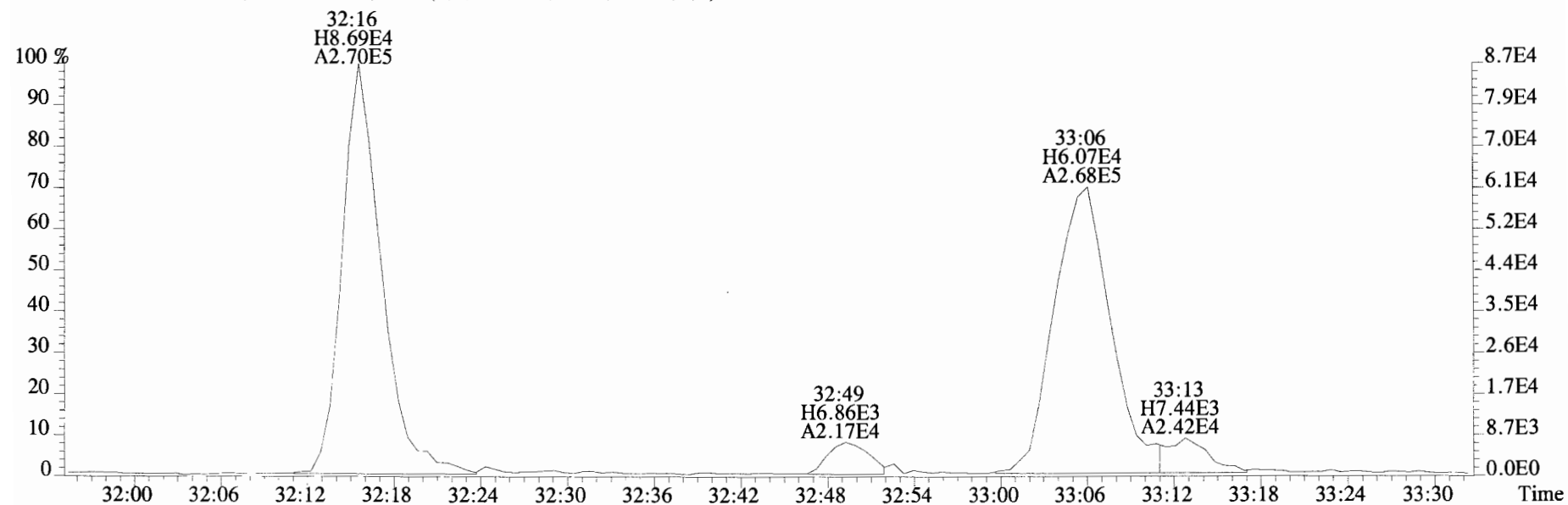
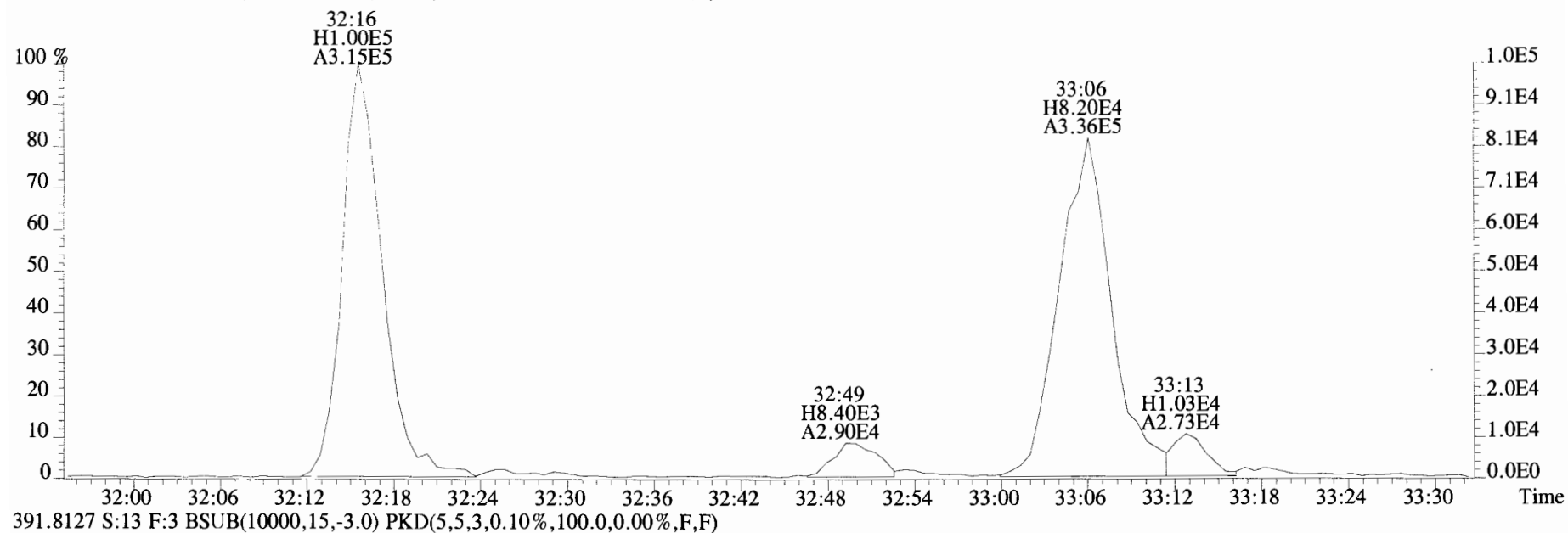
403.8530 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



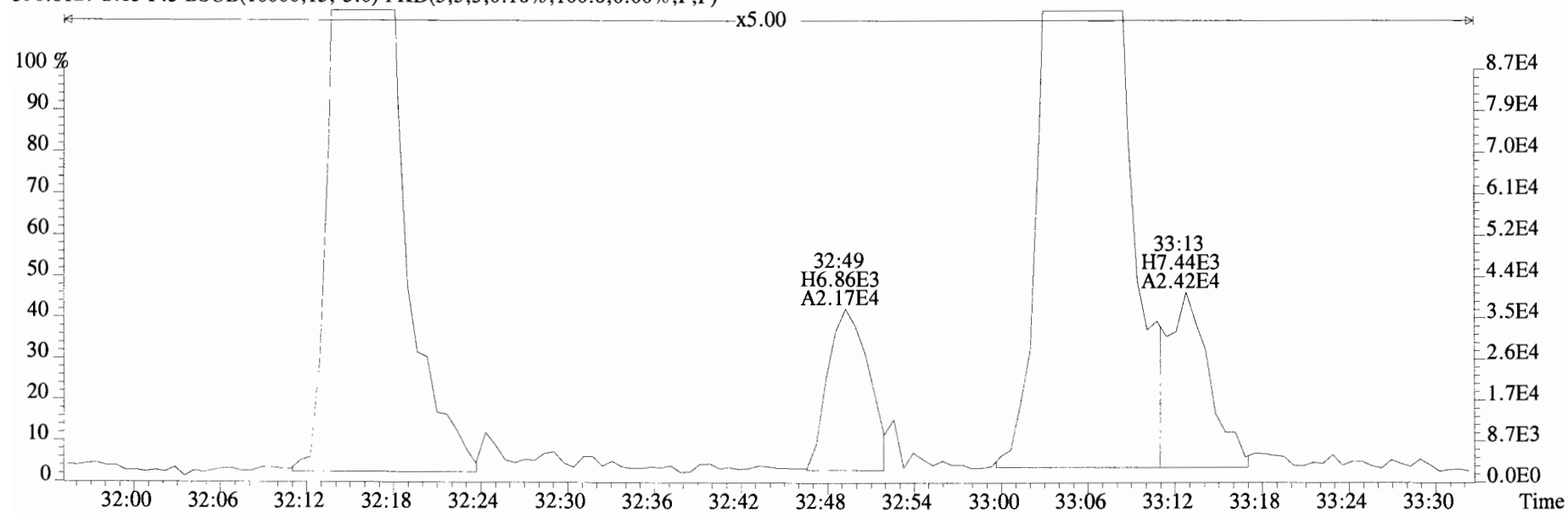
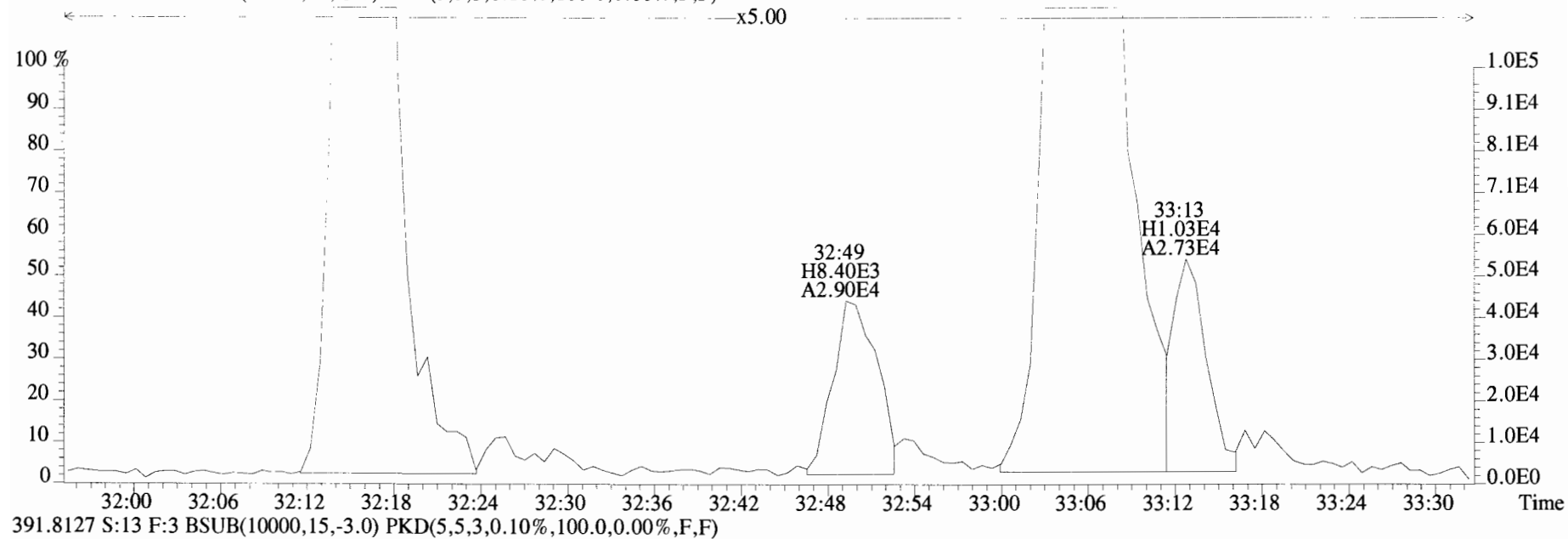
392.9760 S:13 F:3



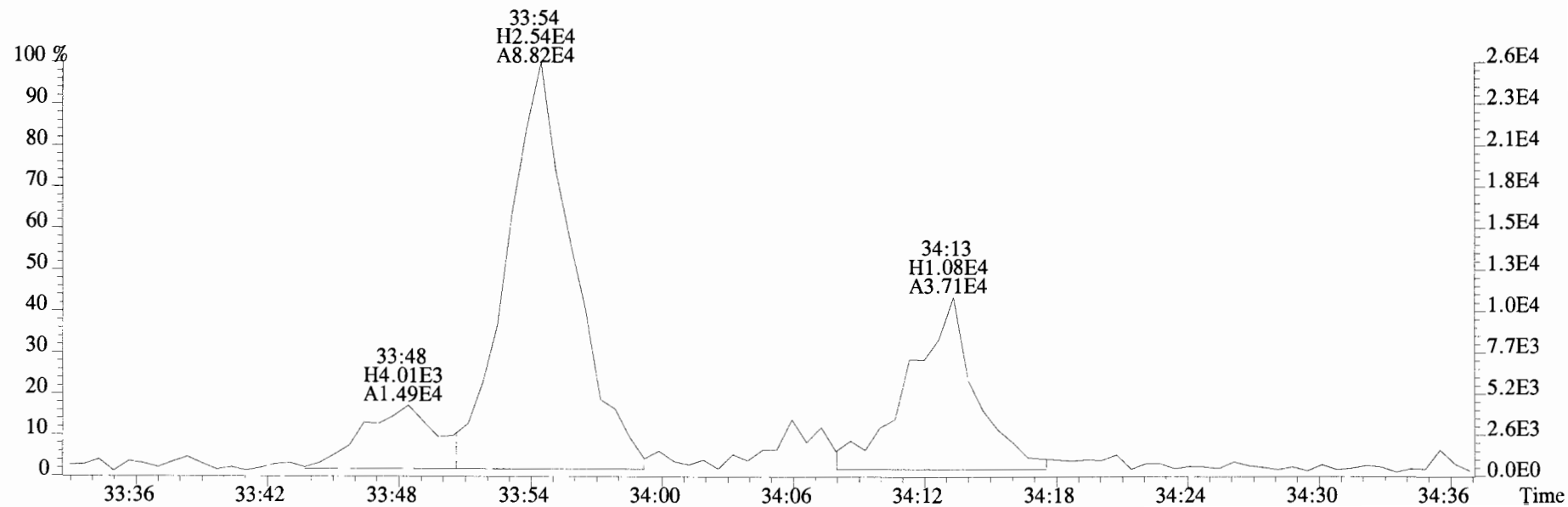
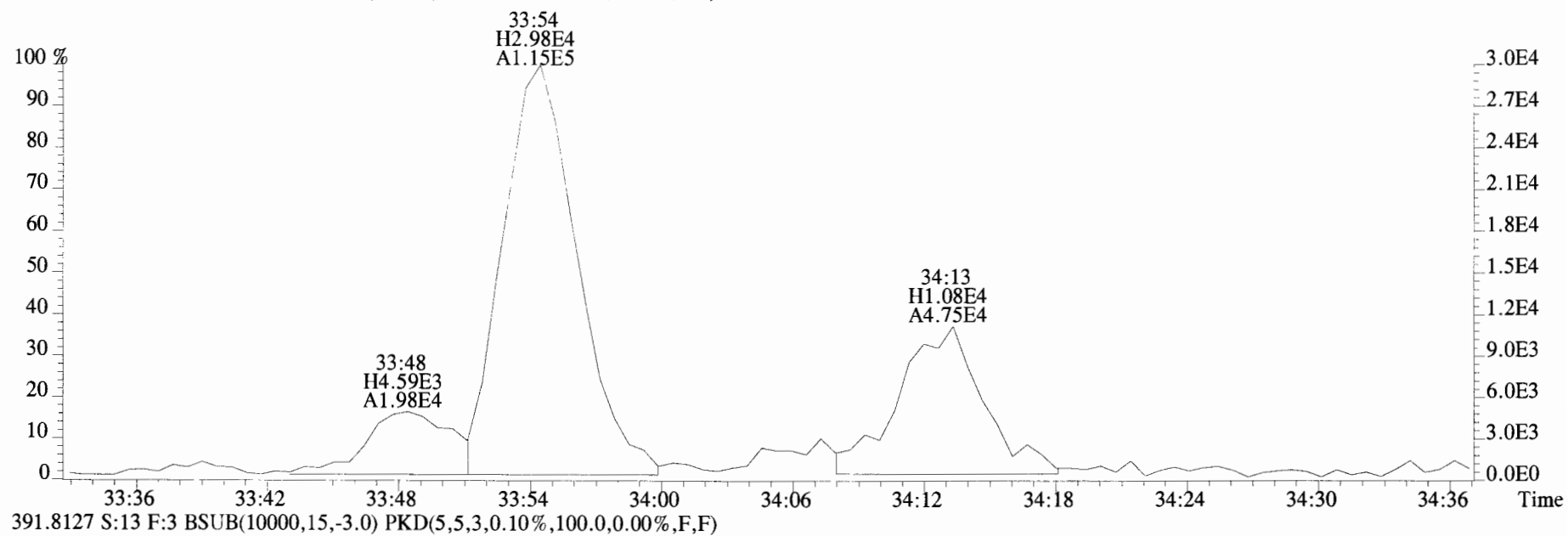
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



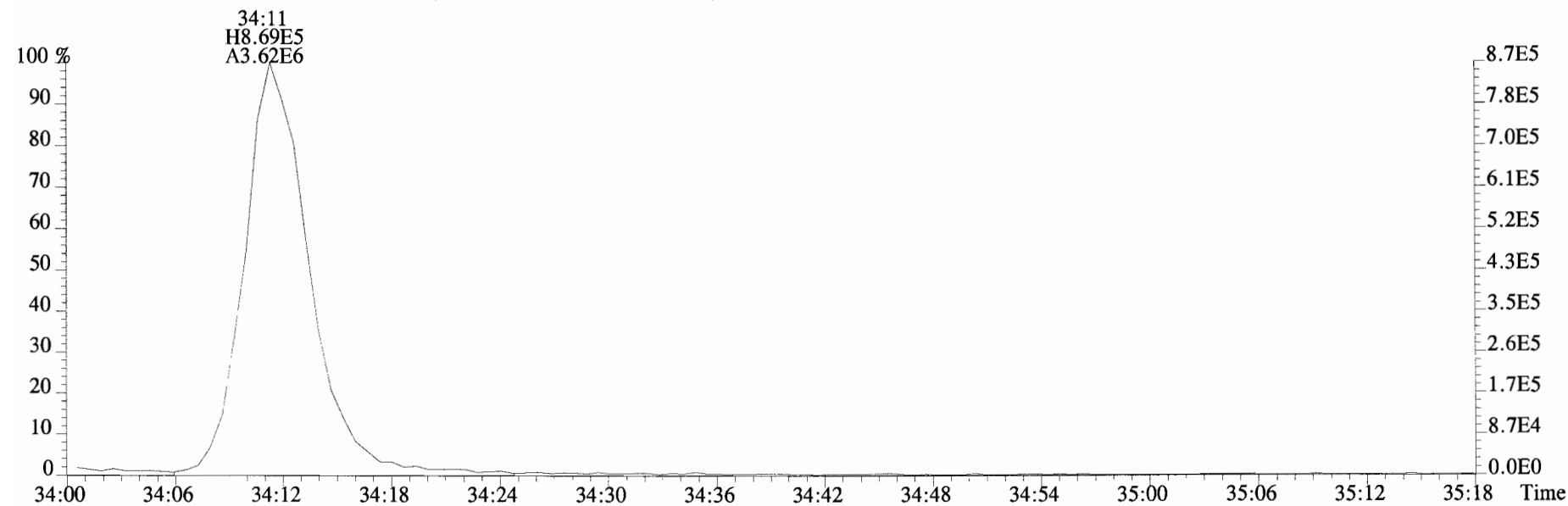
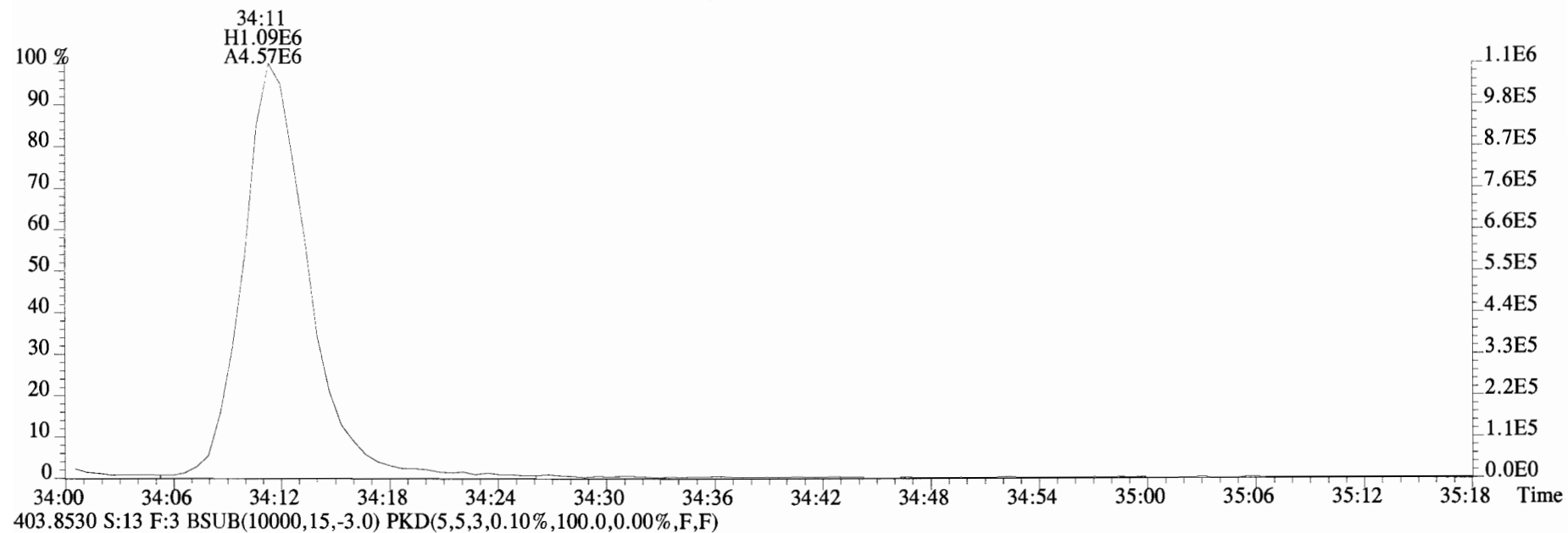
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



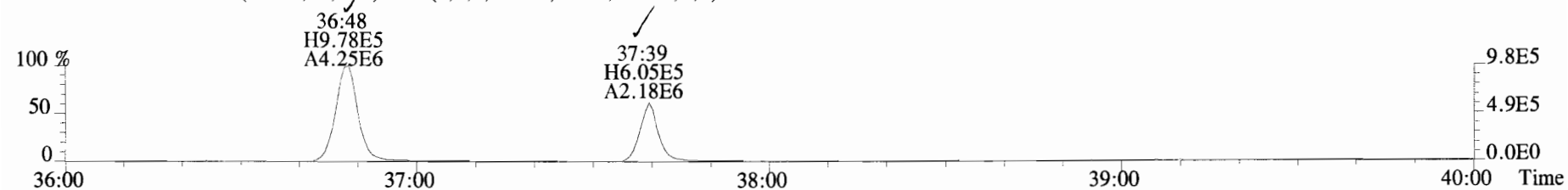
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



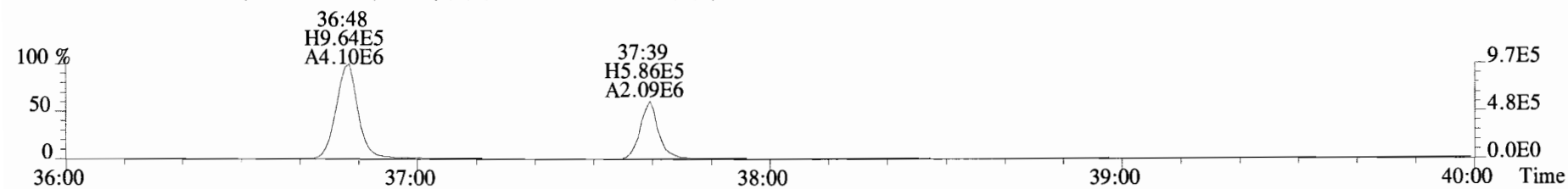
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
401.8559 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



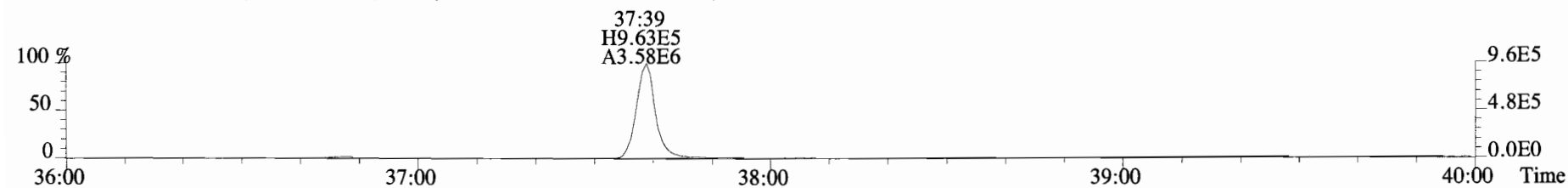
File:190626D2 #1-355 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
423.7767 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



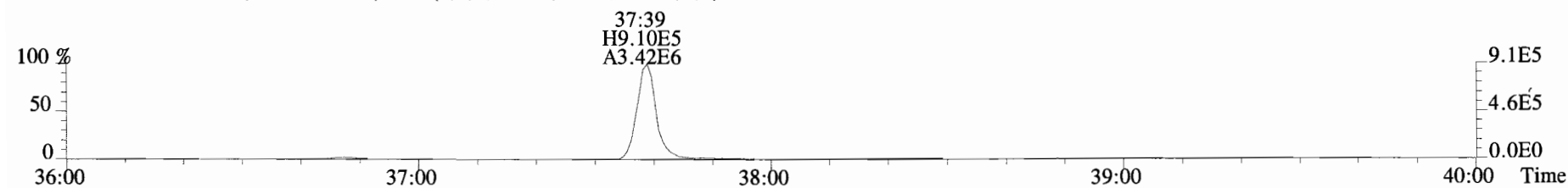
425.7737 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



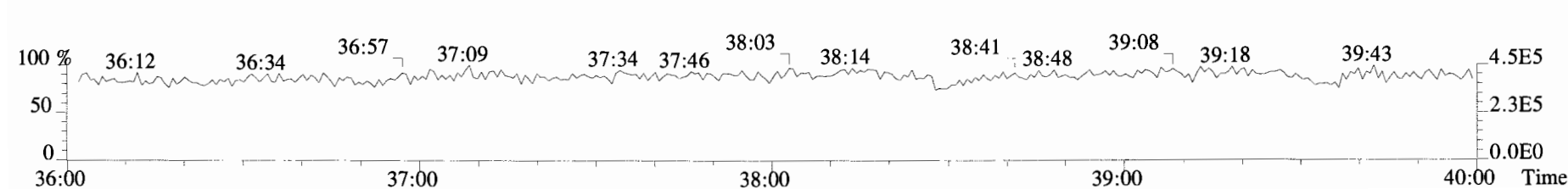
435.8169 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



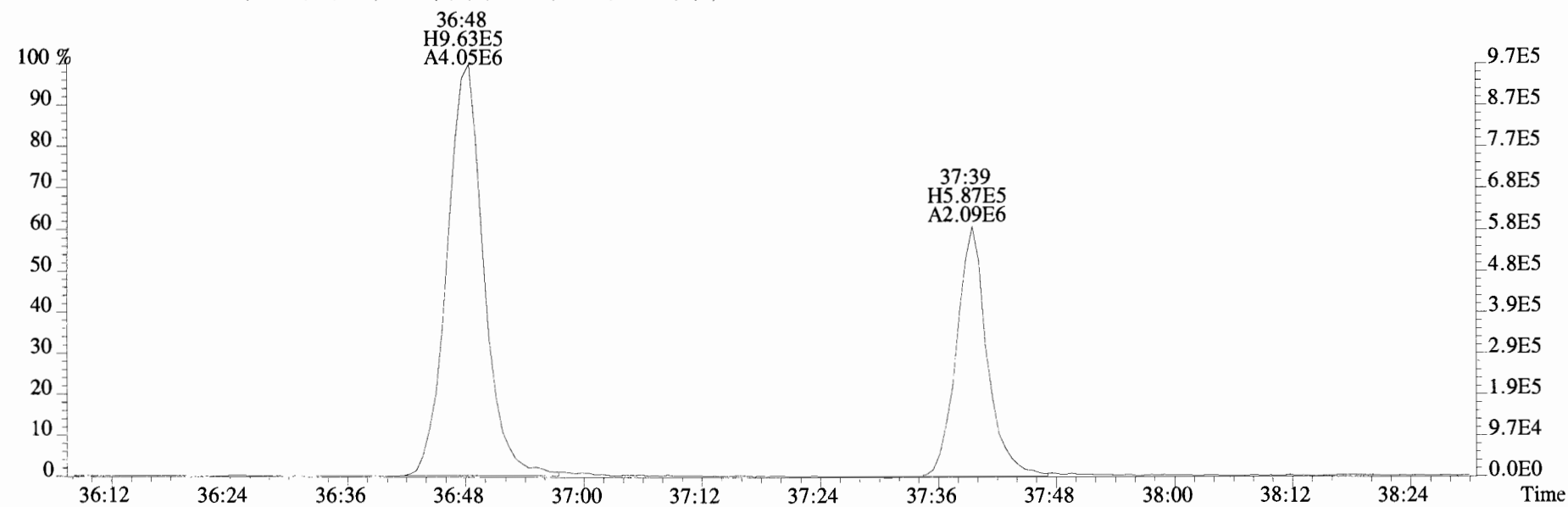
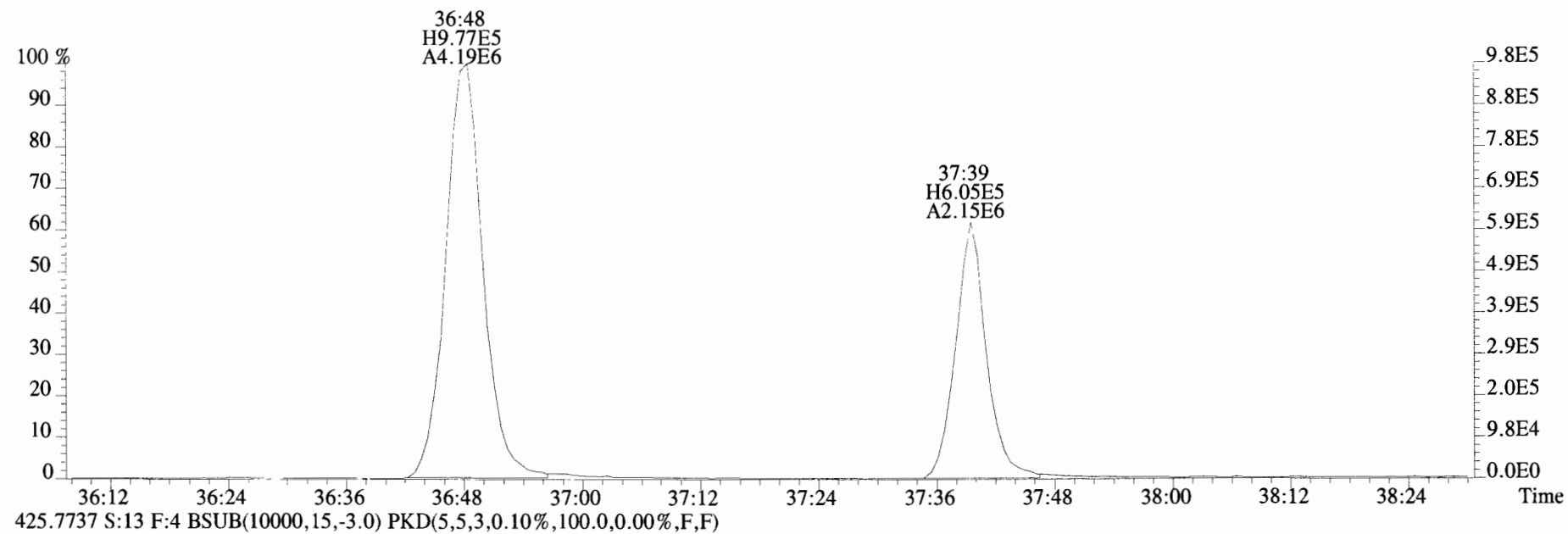
437.8140 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



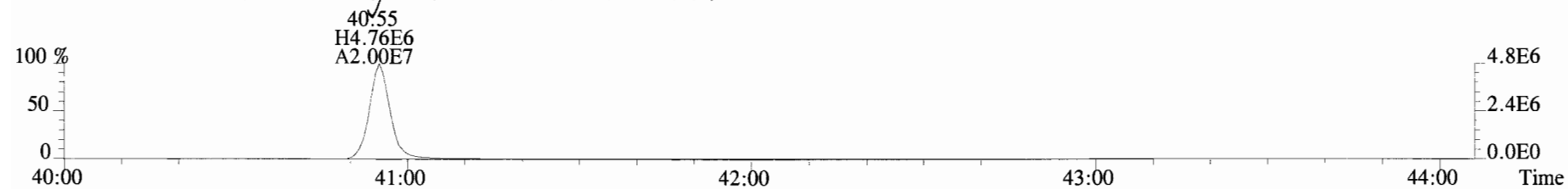
454.9728 S:13 F:4



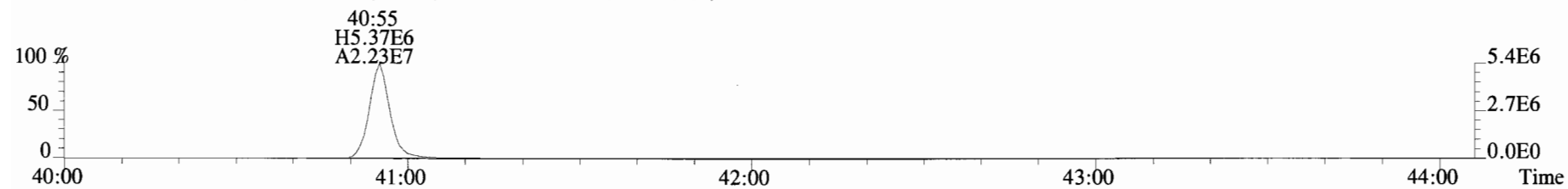
File:190626D2 #1-355 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
423.7767 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



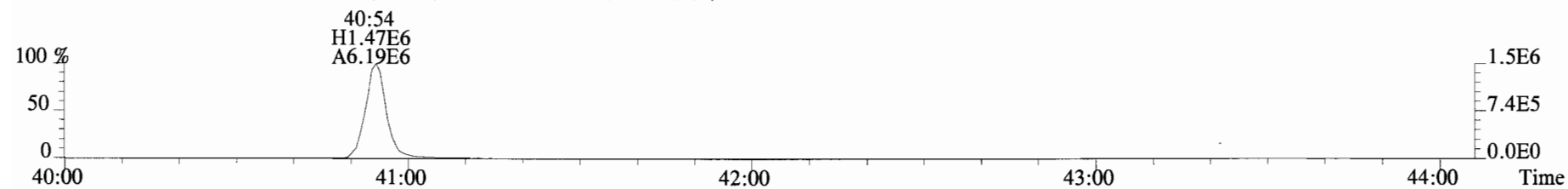
File:190626D2 #1-432 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
457.7377 S:13 F:5 BSUB(10000,15,-3.0)PKD(5,5,3,0.10%,100.0,0.00%,F,F)



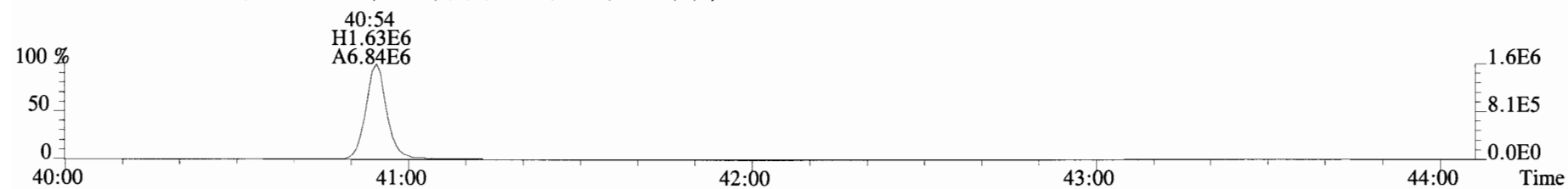
459.7348 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



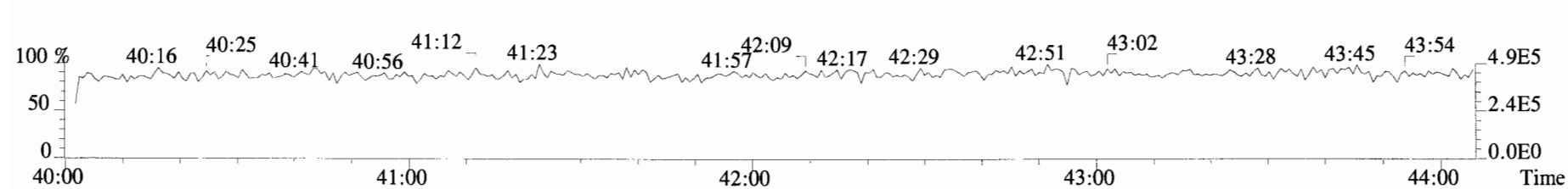
469.7780 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



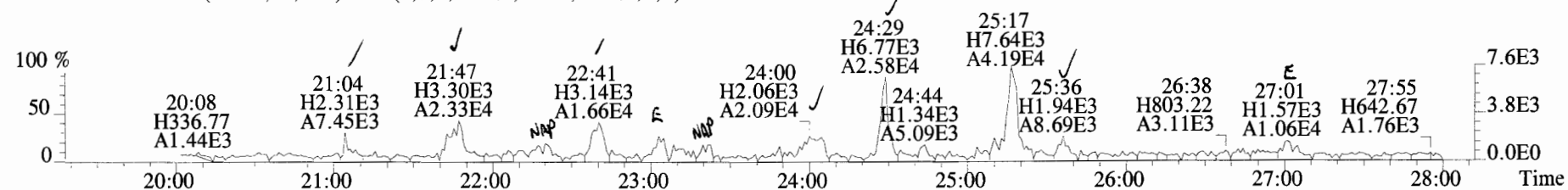
471.7750 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



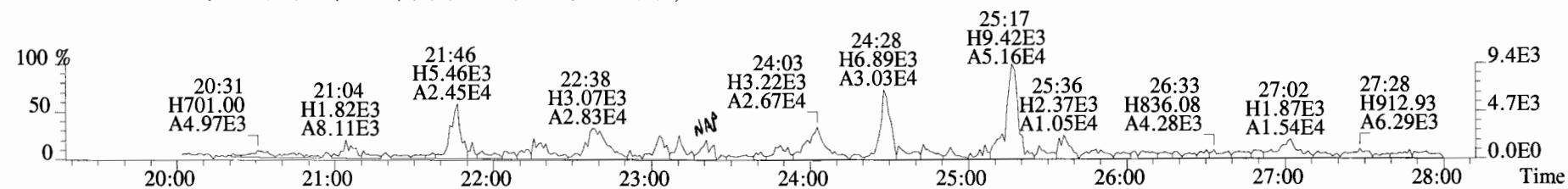
454.9728 S:13 F:5



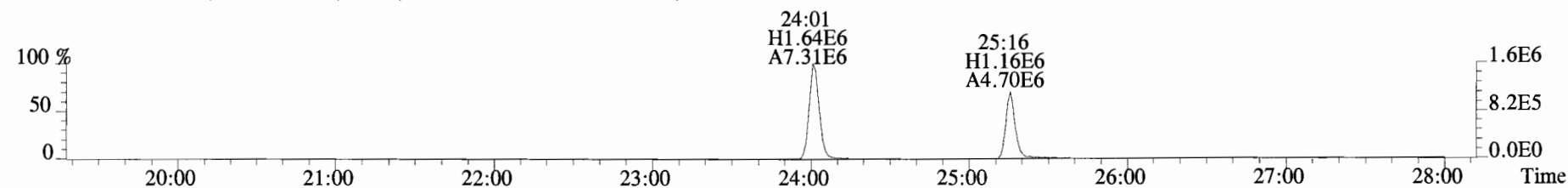
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
 303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



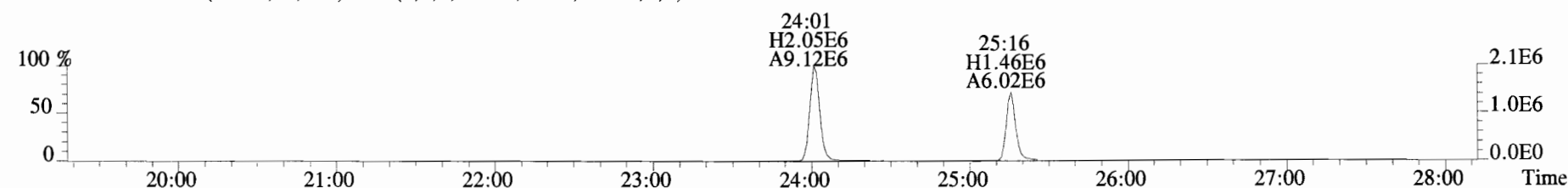
305.8987 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



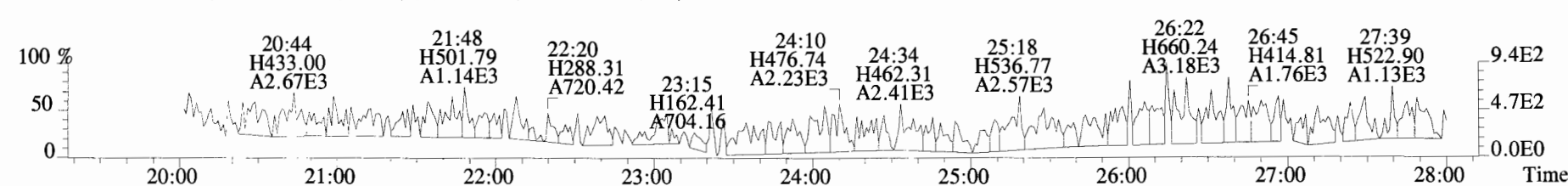
315.9419 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



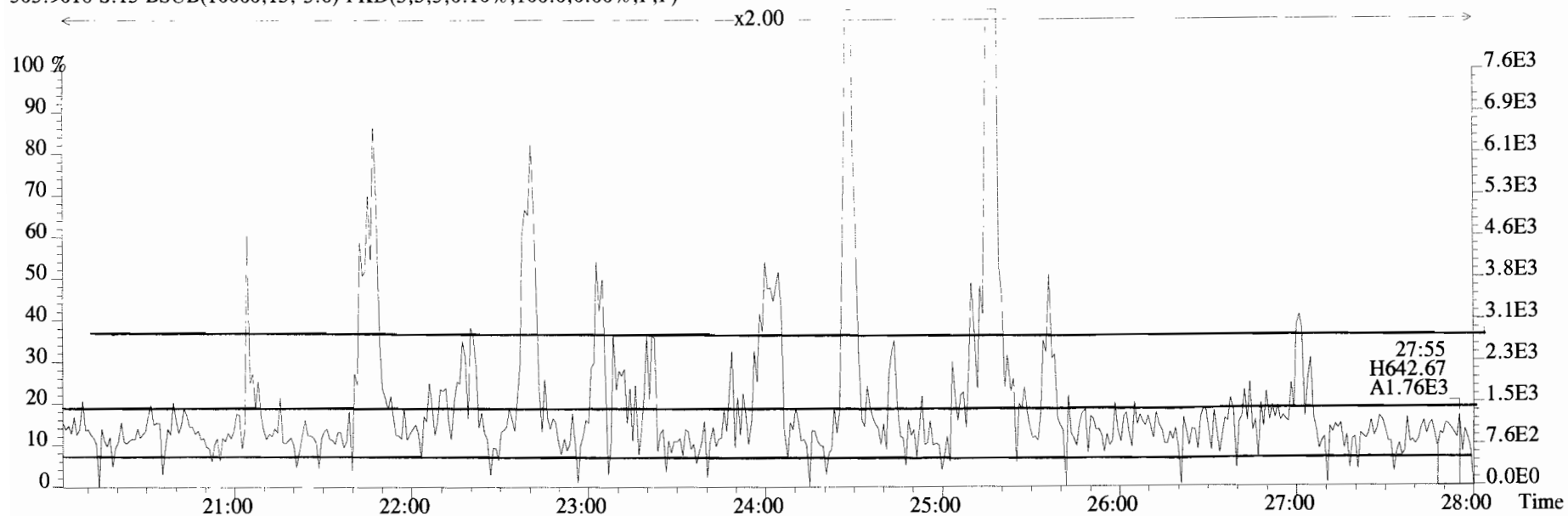
317.9389 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



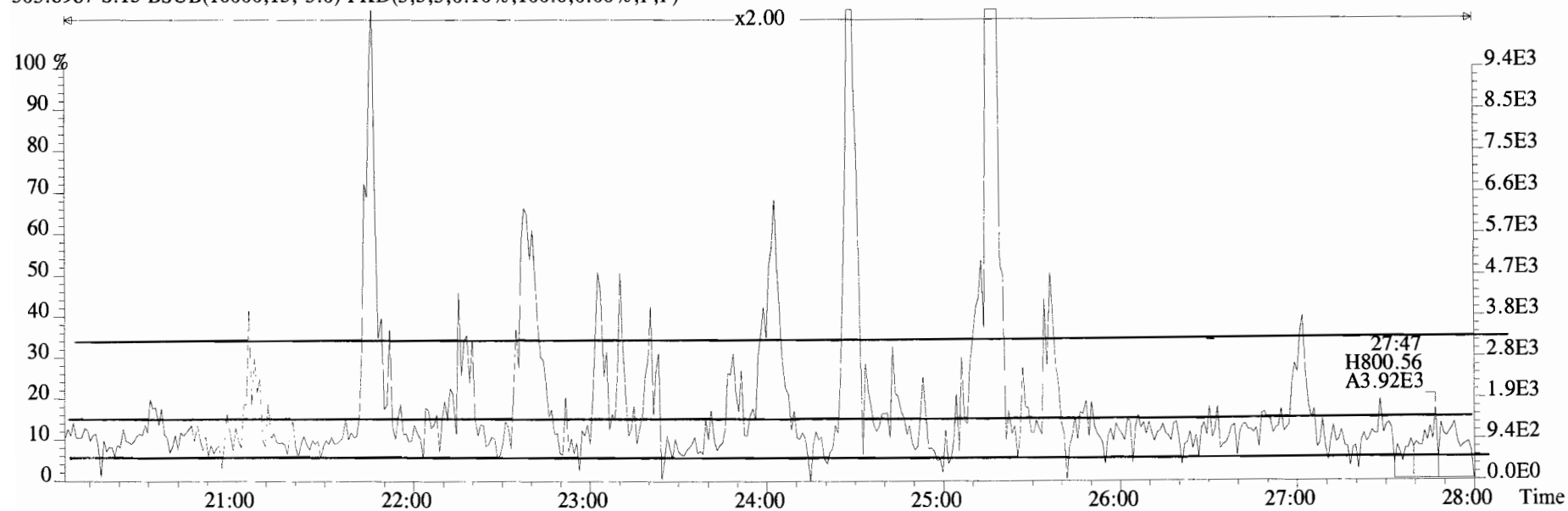
375.8364 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



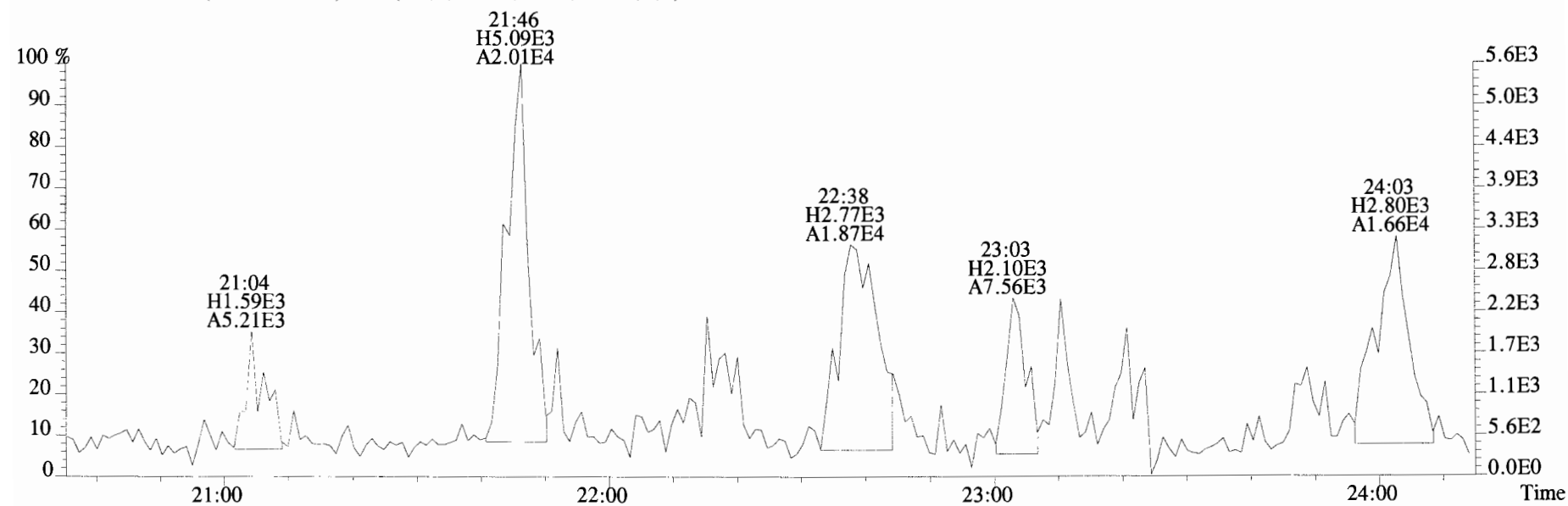
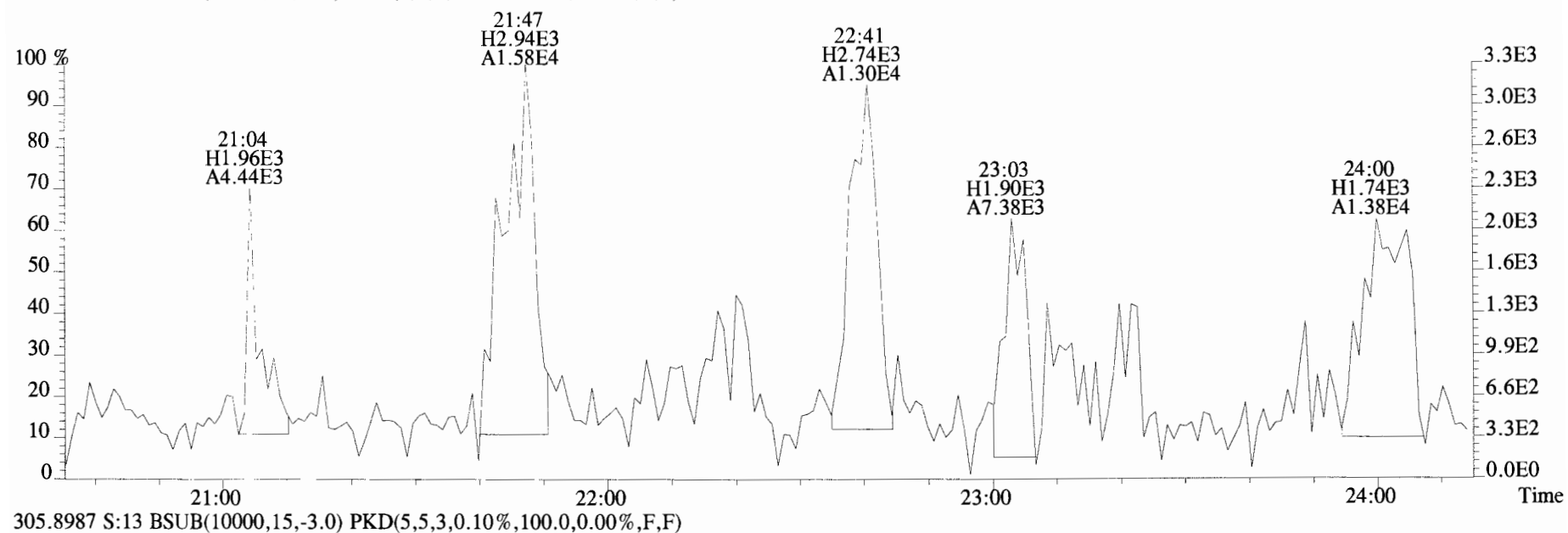
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



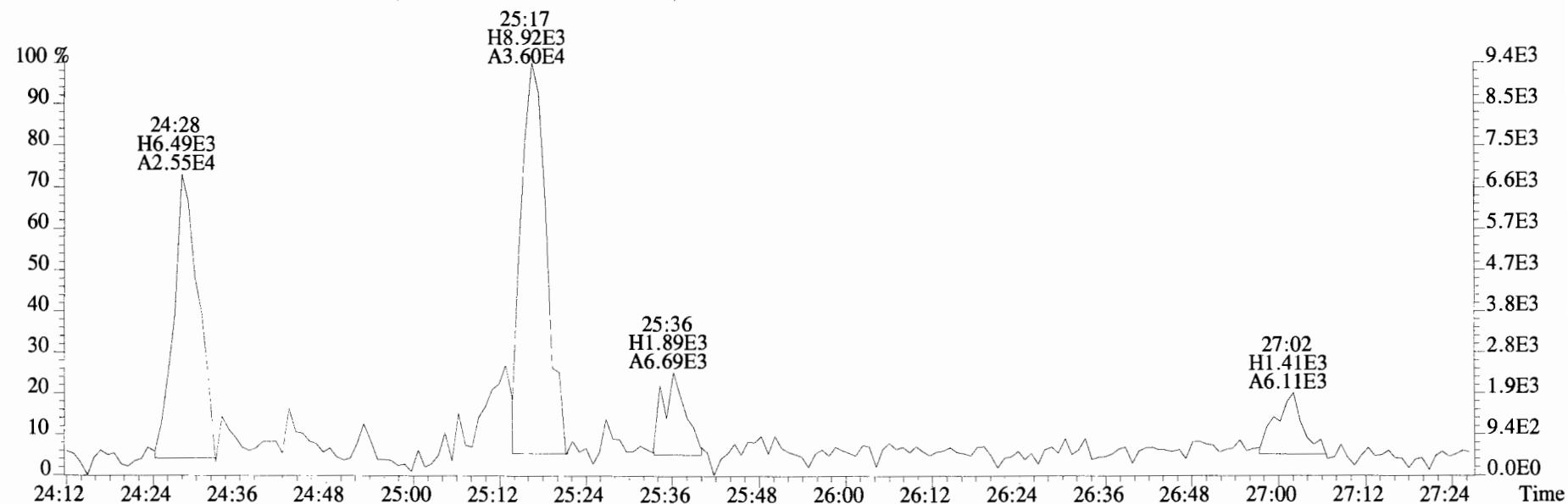
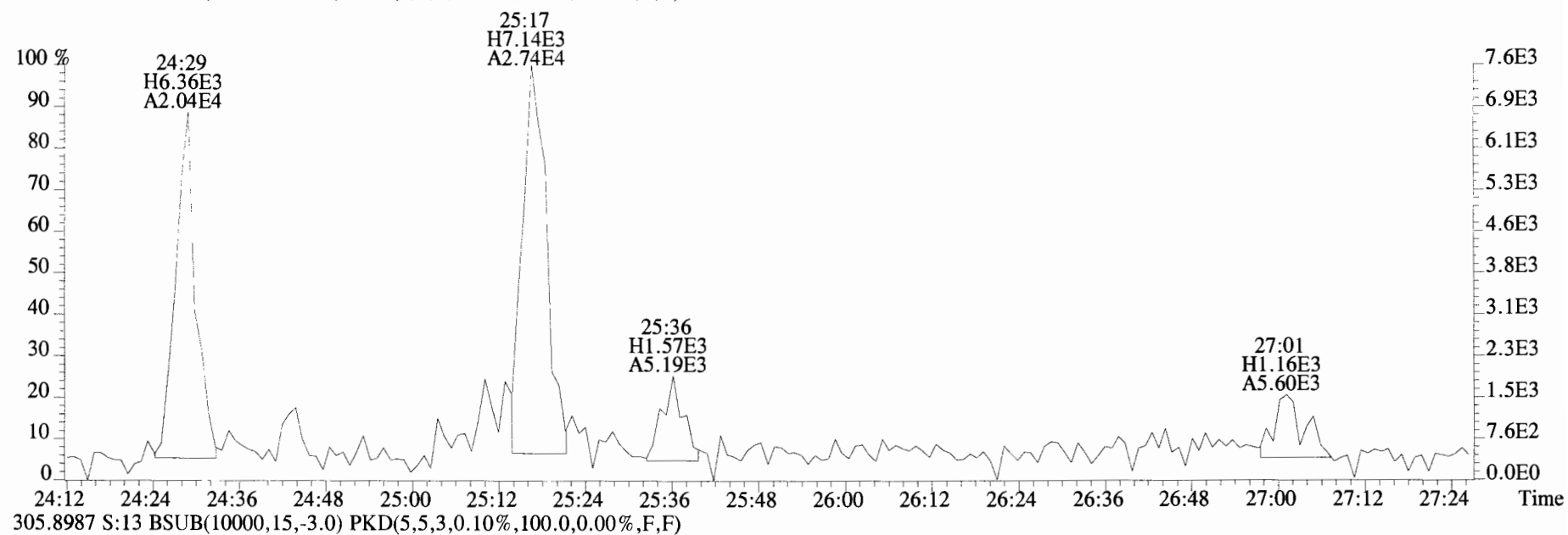
305.8987 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



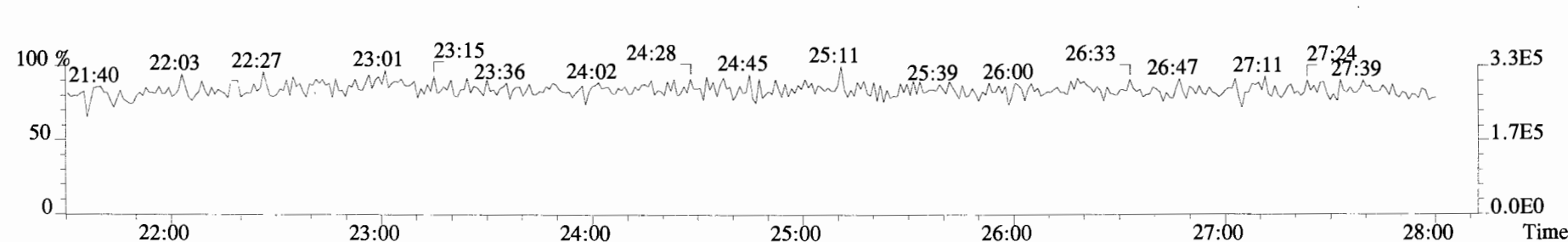
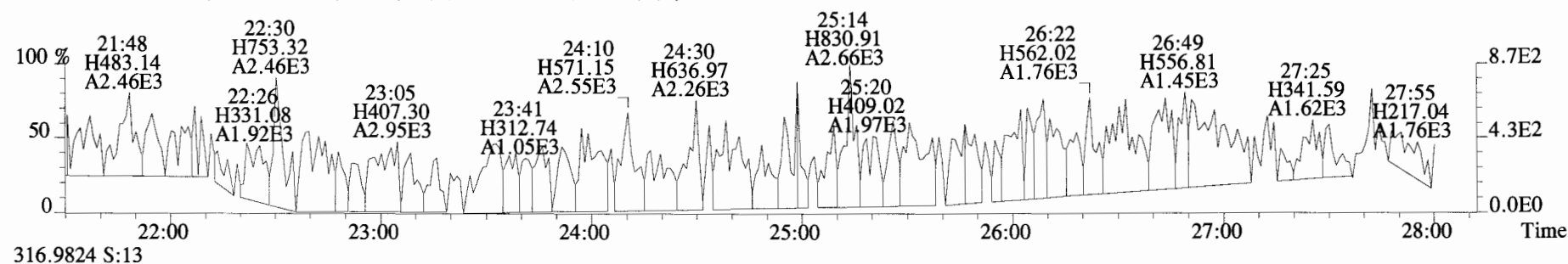
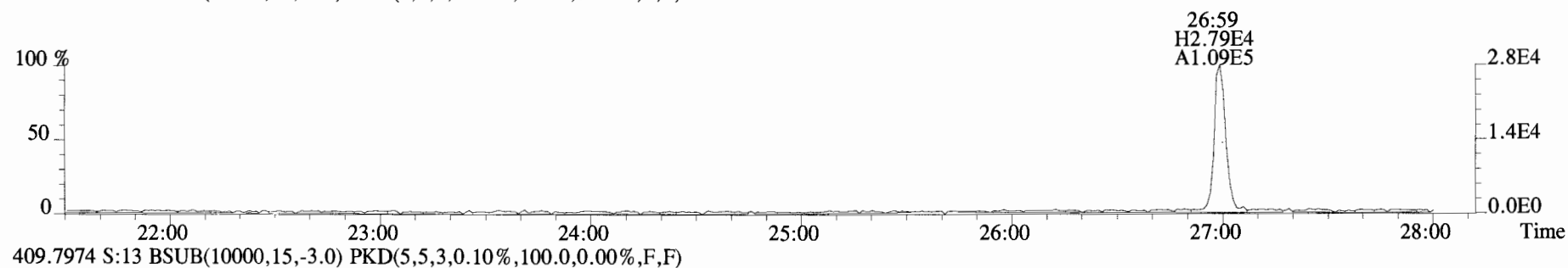
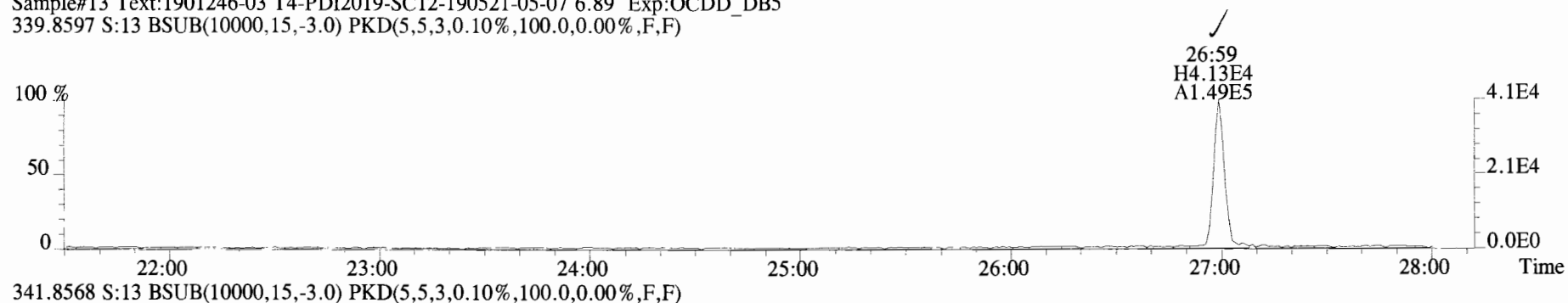
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
 303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



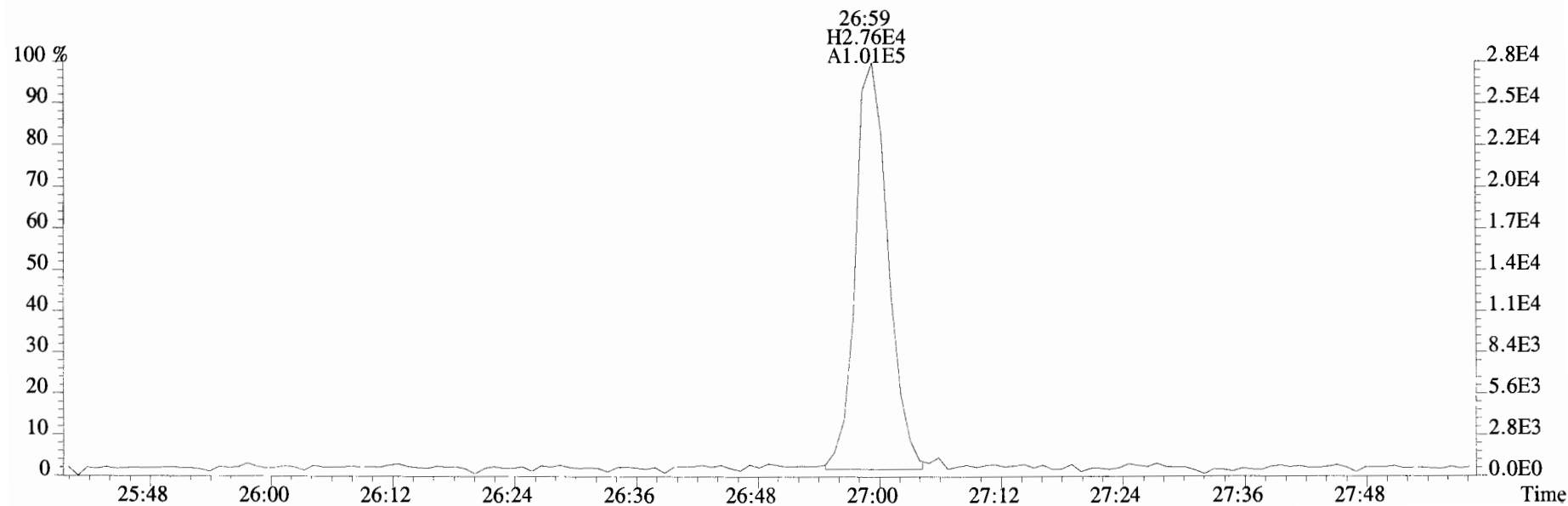
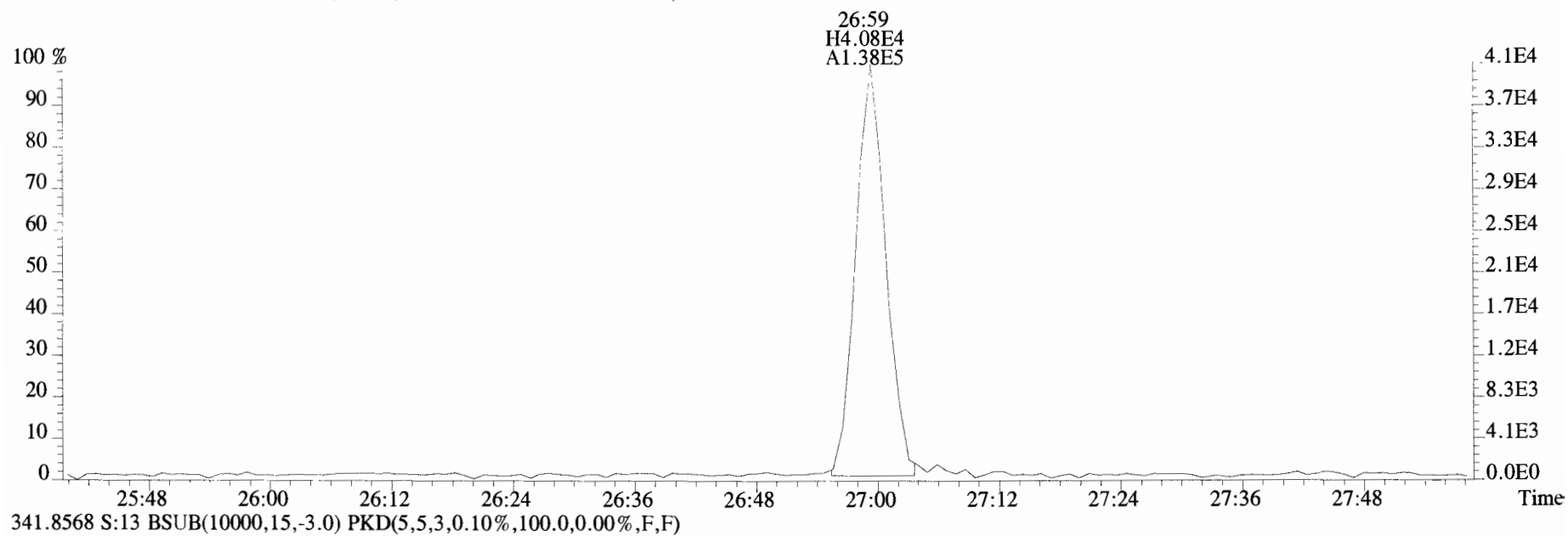
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



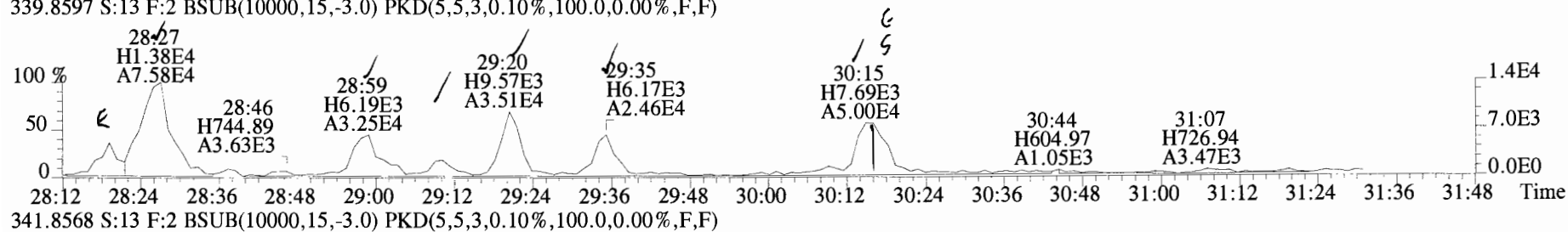
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
339.8597 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



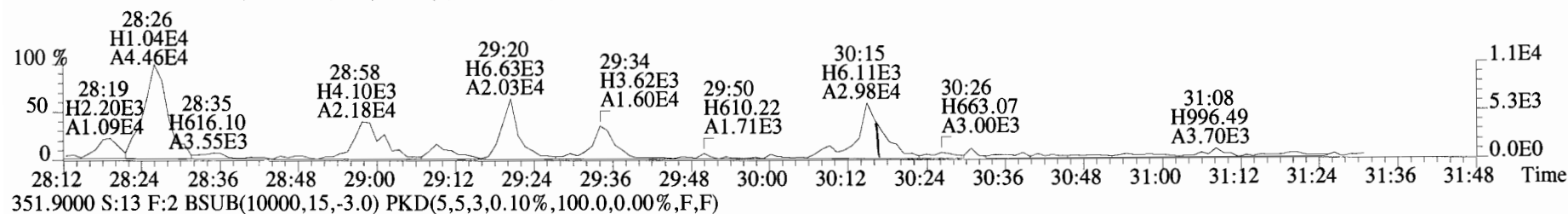
File:190626D2 #1-513 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
339.8597 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



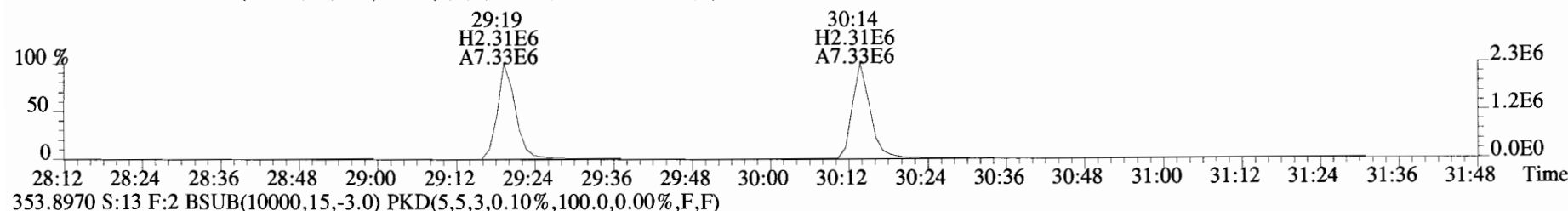
File:190626D2 #1-185 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



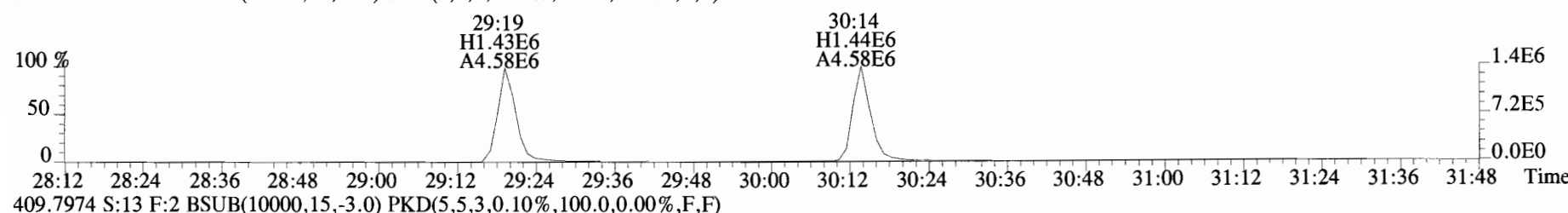
341.8568 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



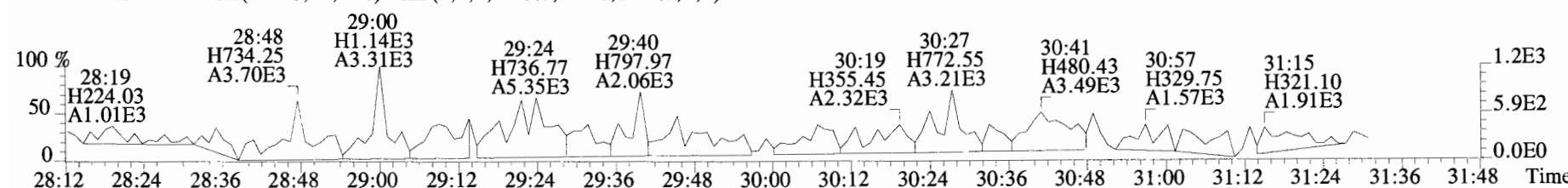
351.9000 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



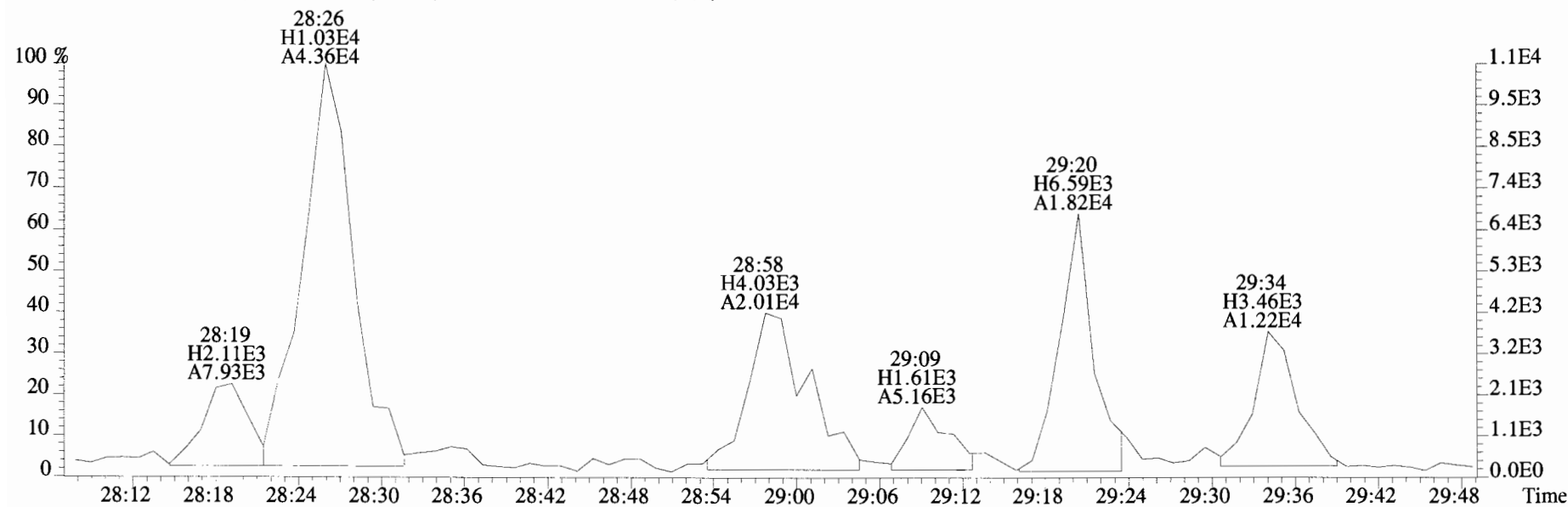
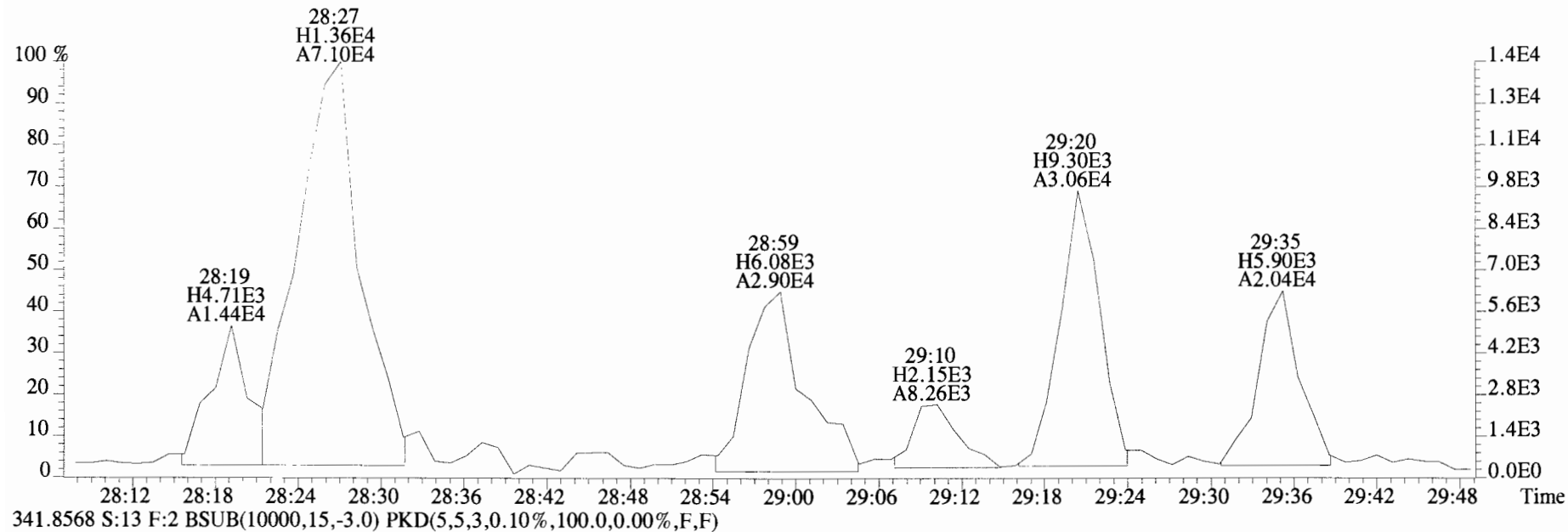
353.8970 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



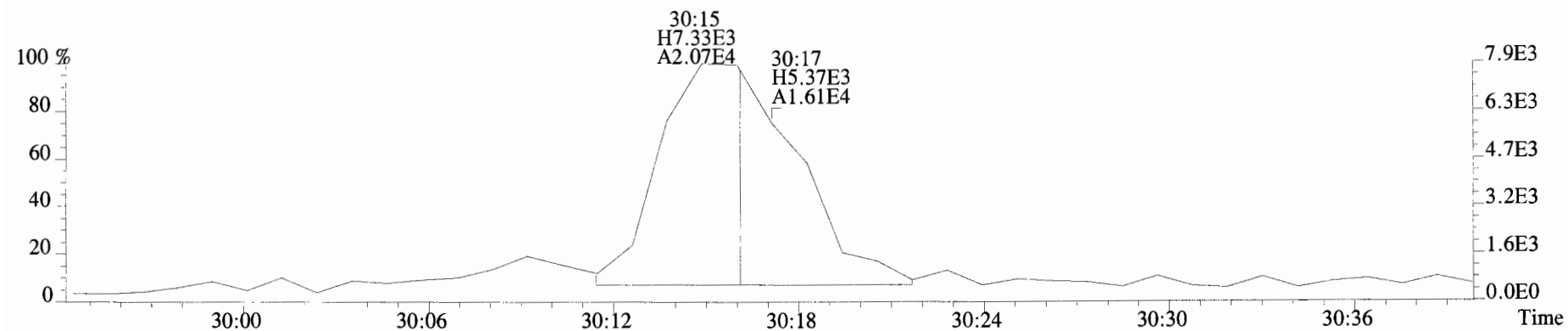
409.7974 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



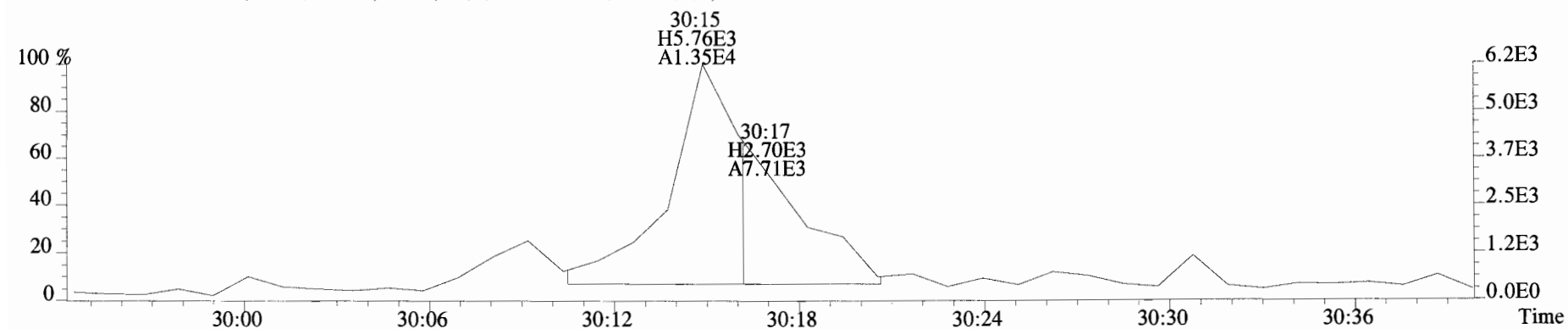
File:190626D2 #1-185 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
 339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



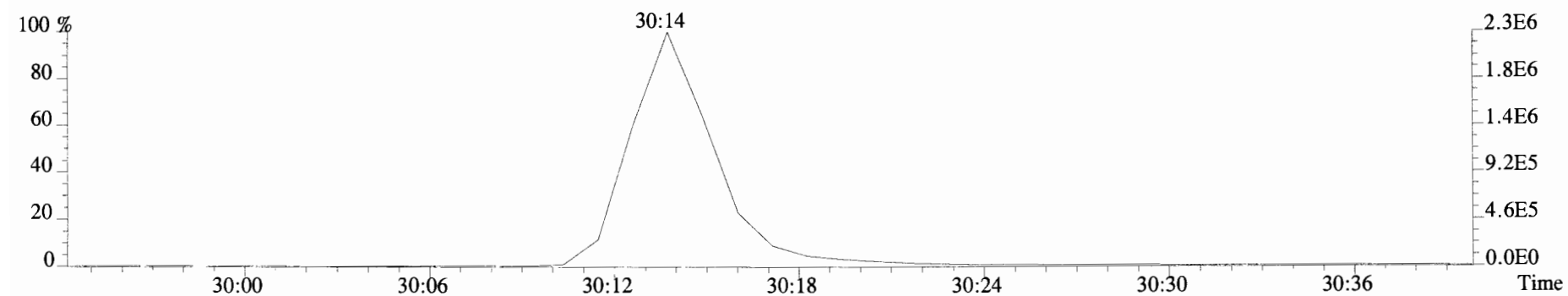
File:190626D2 #1-185 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



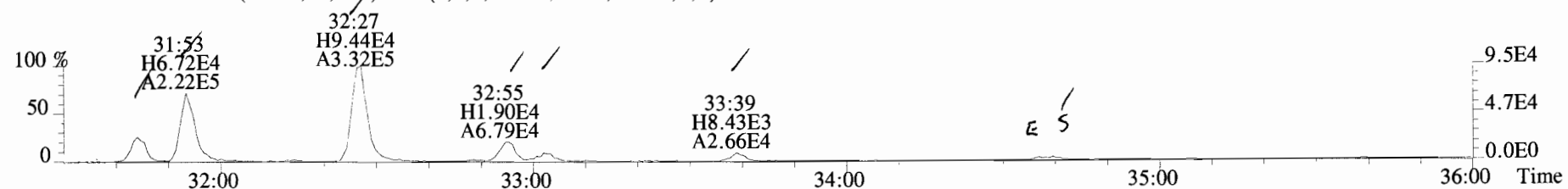
341.8568 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



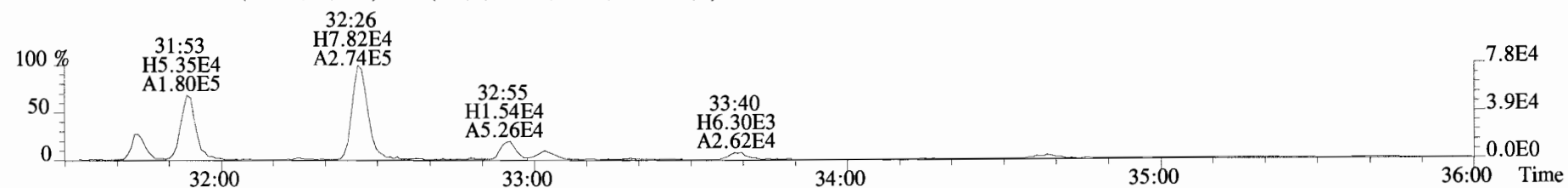
351.9000 S:13 F:2



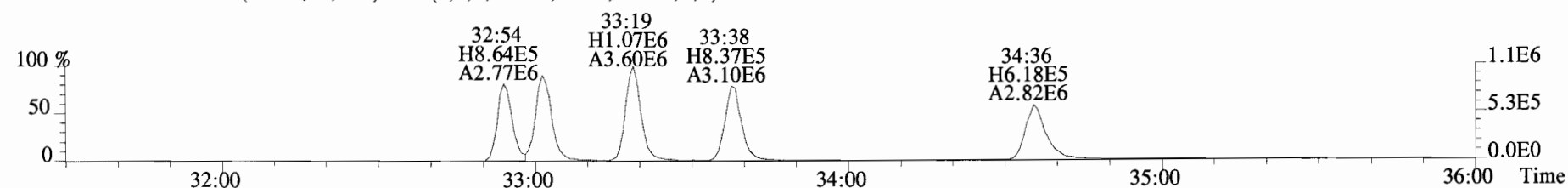
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



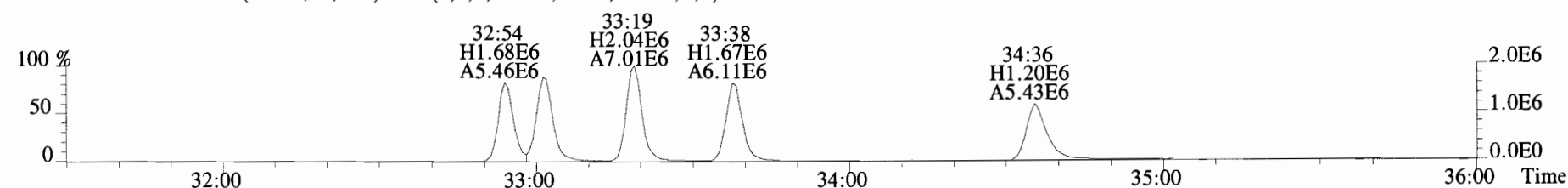
375.8178 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



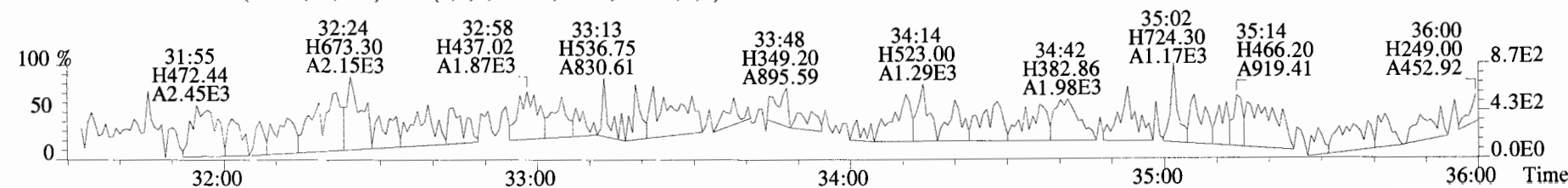
383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



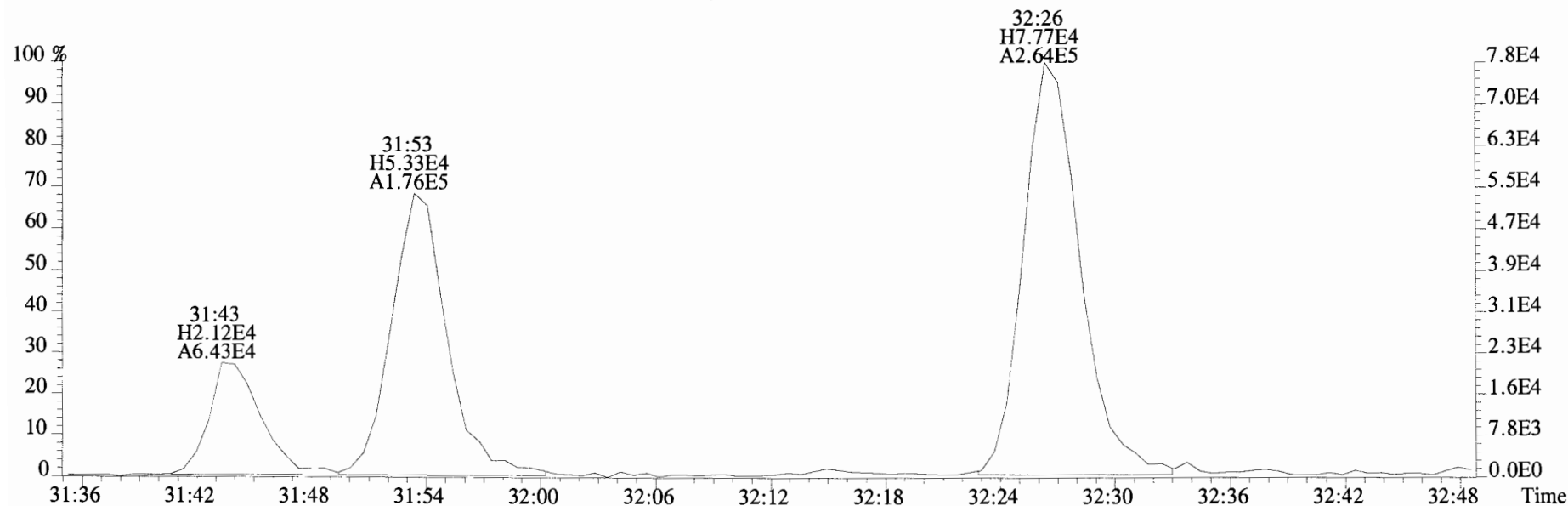
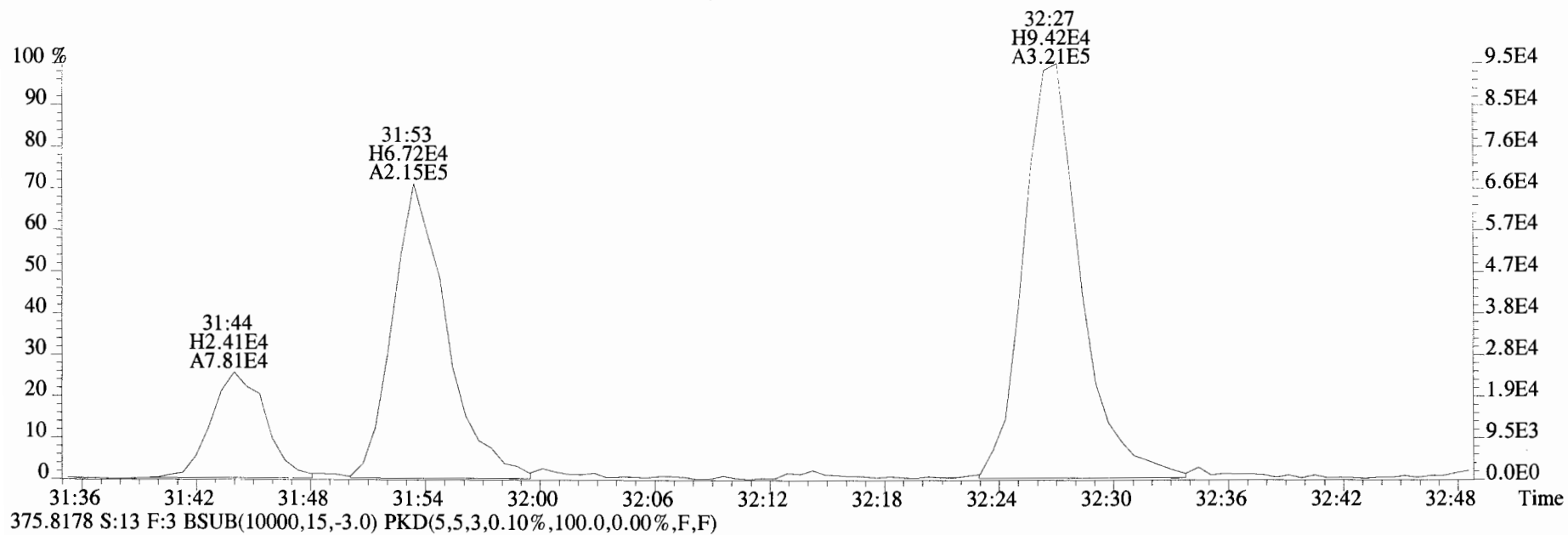
385.8610 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



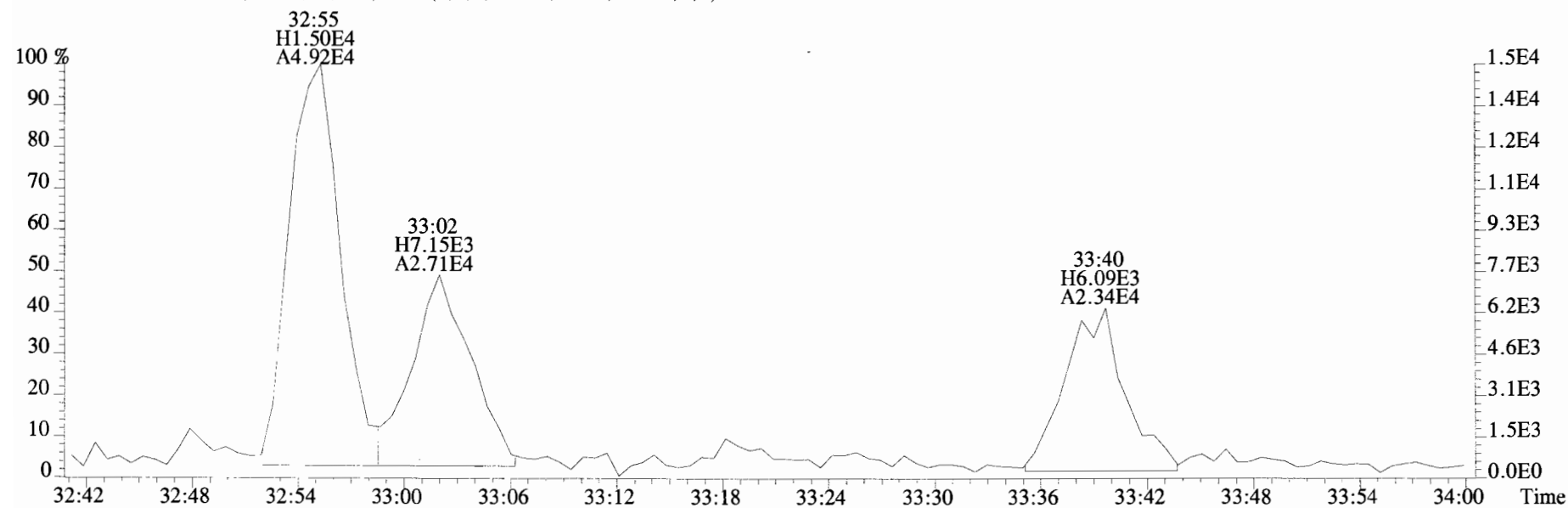
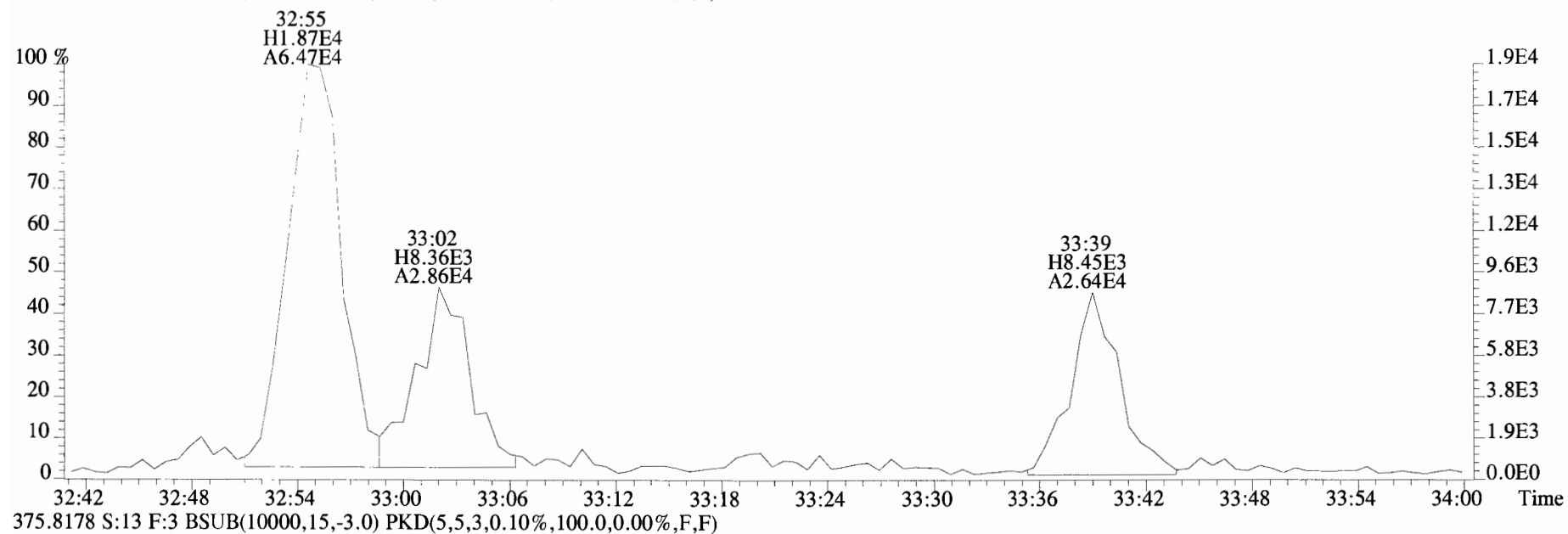
445.7555 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



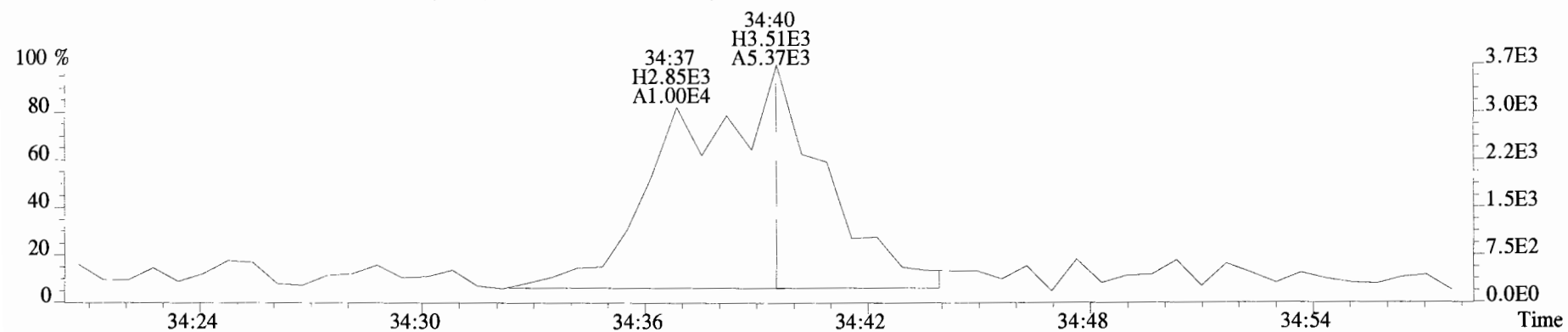
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



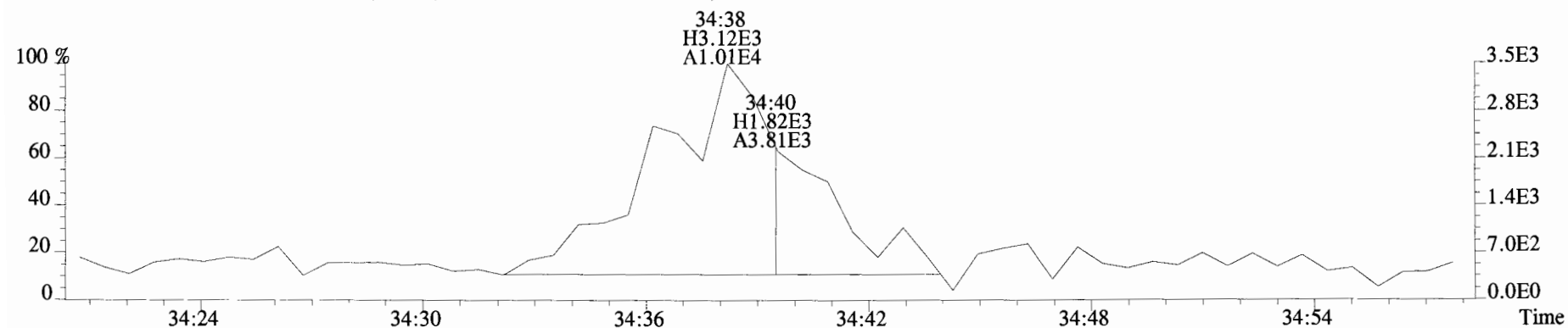
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



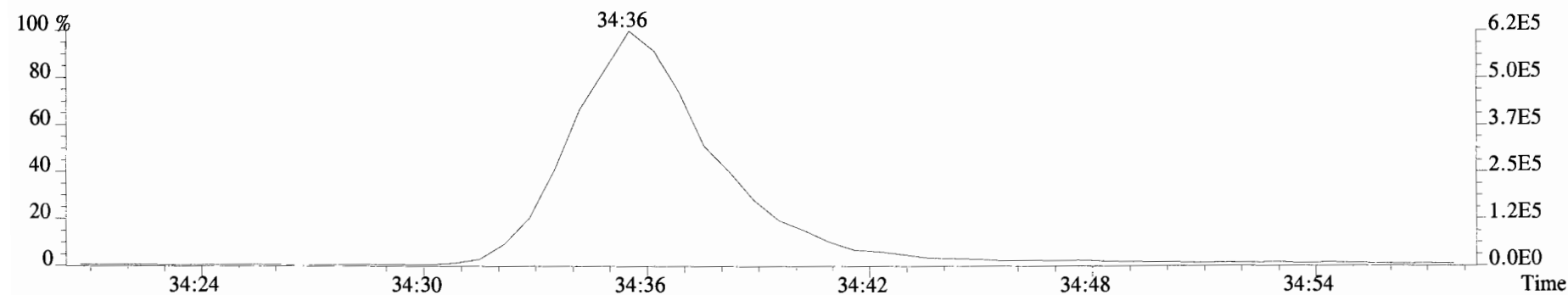
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD DB5
373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



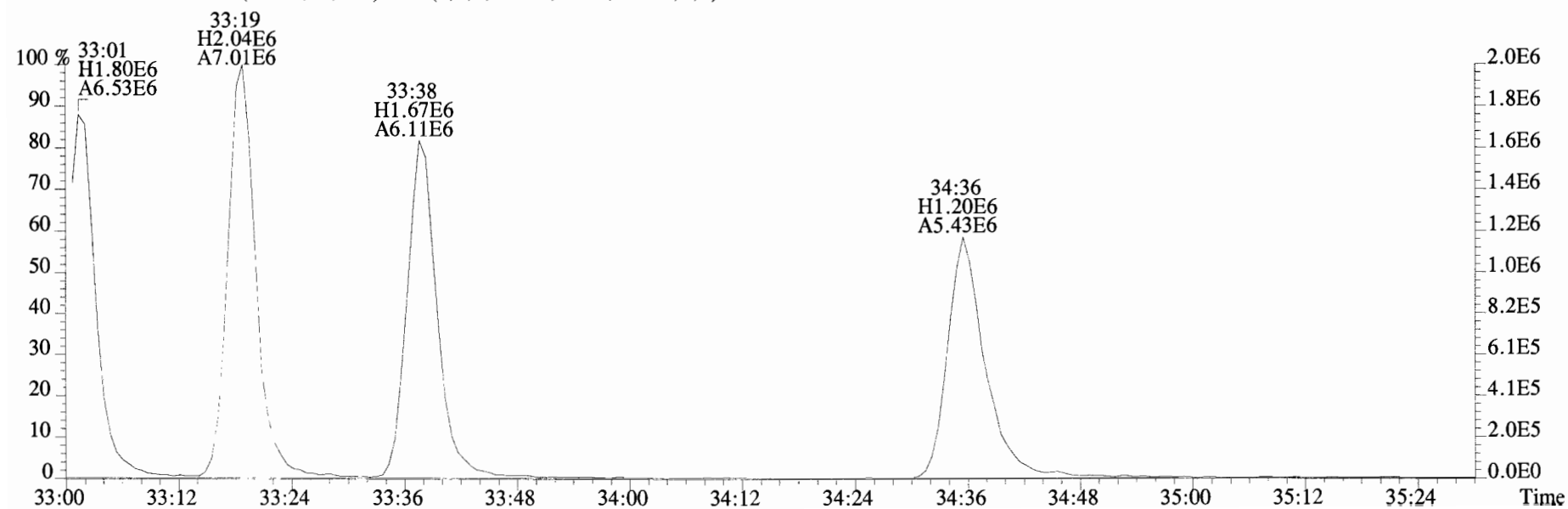
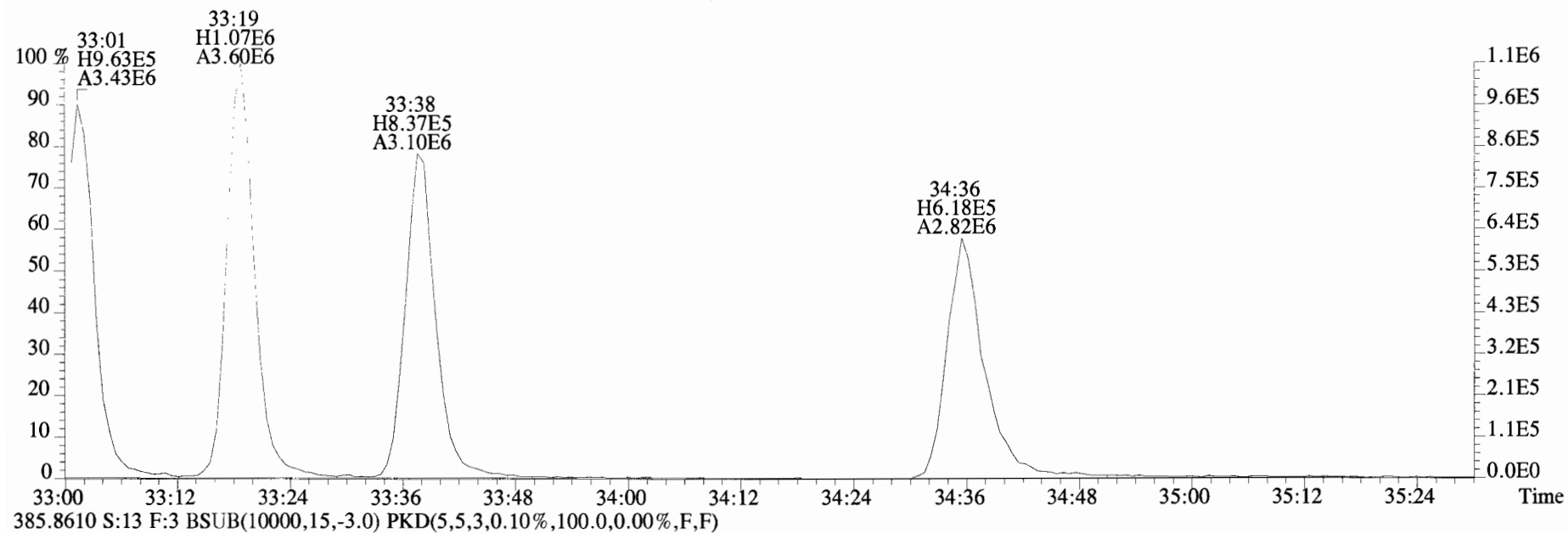
375.8178 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



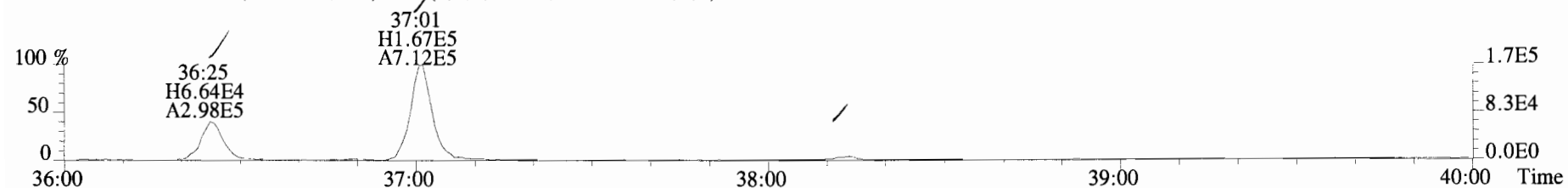
383.8639 S:13 F:3



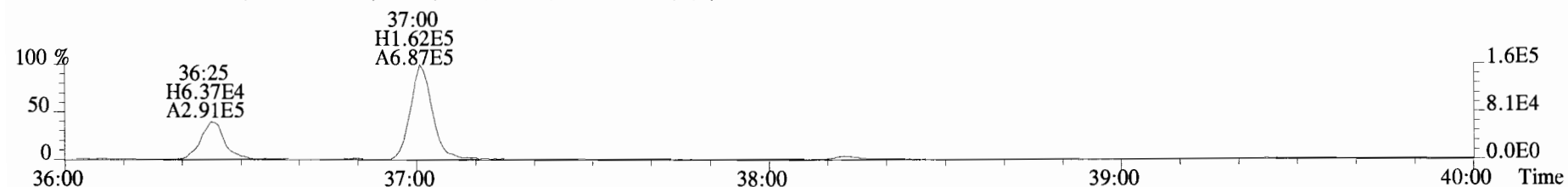
File:190626D2 #1-399 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



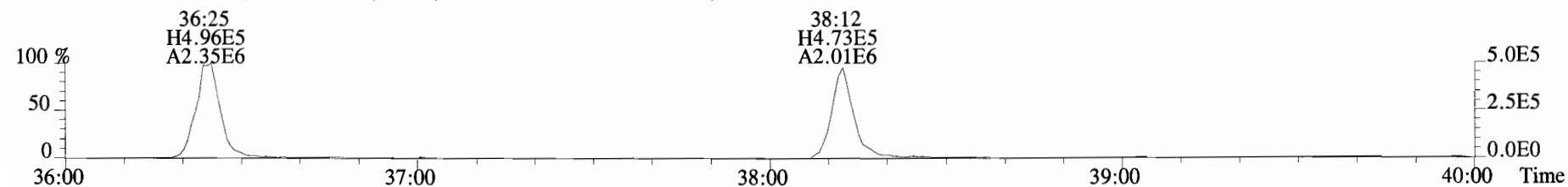
File:190626D2 #1-355 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
407.7818 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



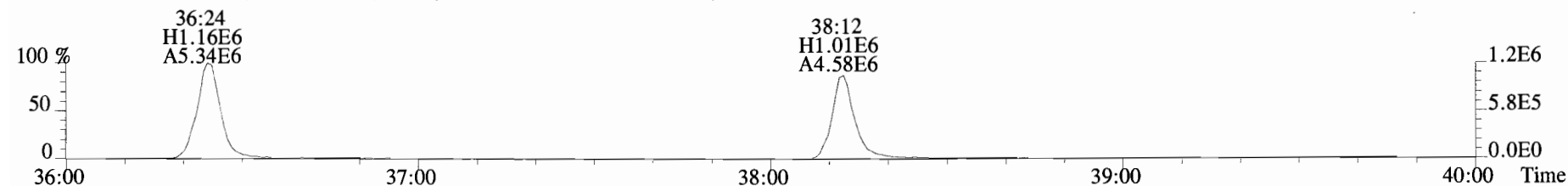
409.7788 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



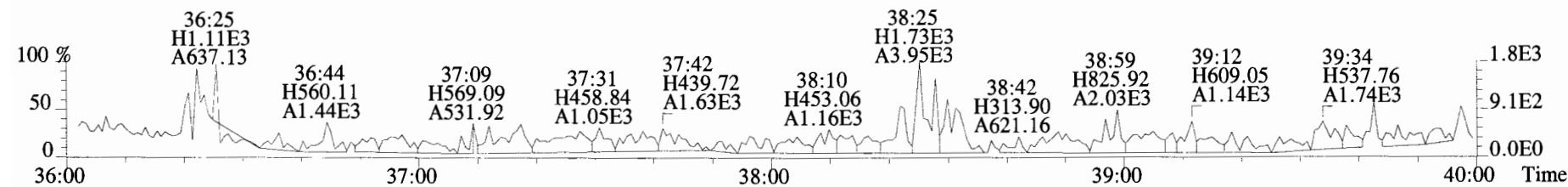
417.8253 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



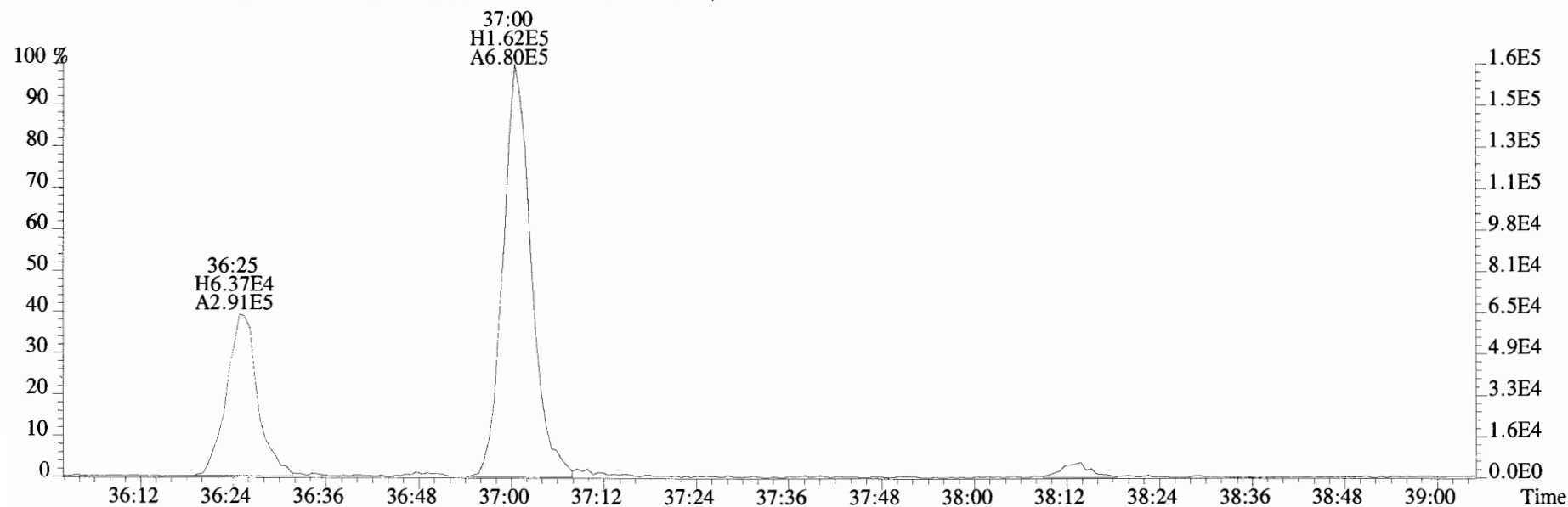
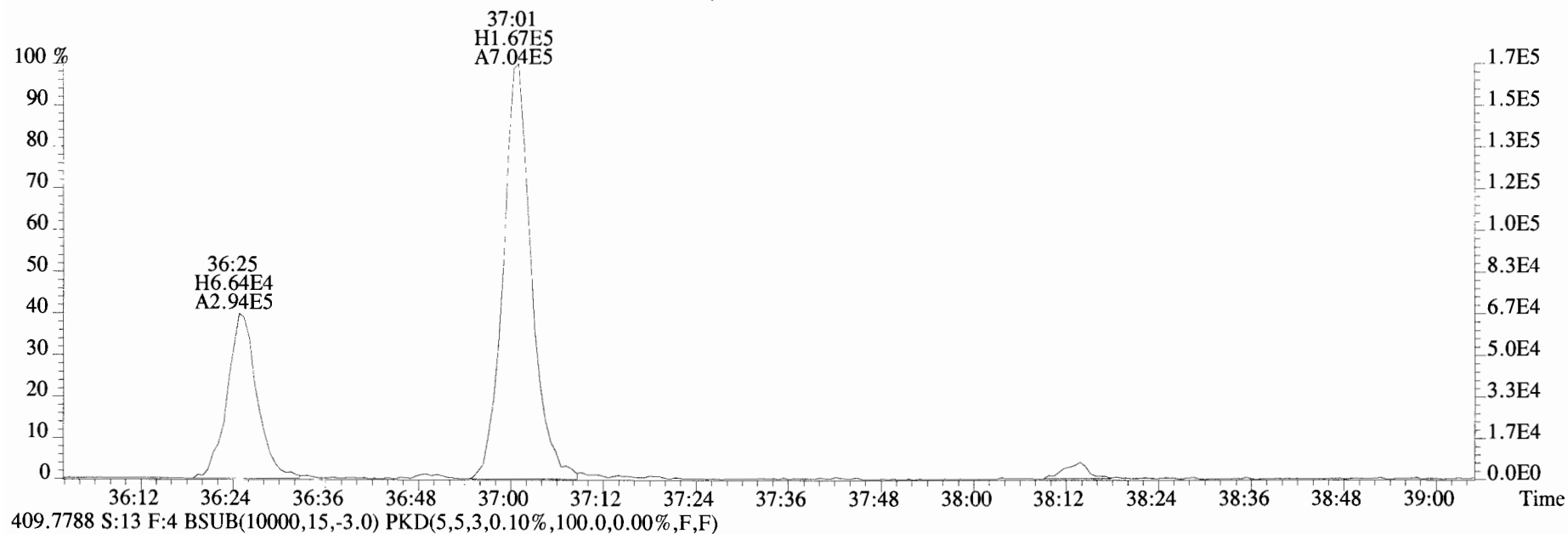
419.8220 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



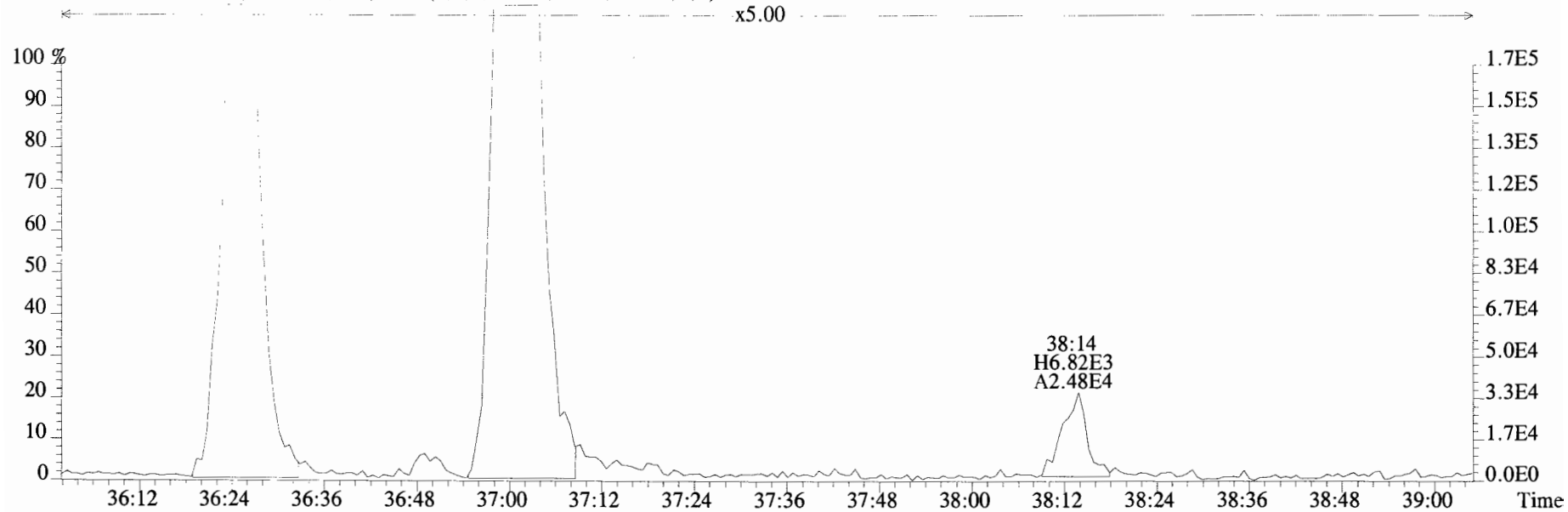
479.7165 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



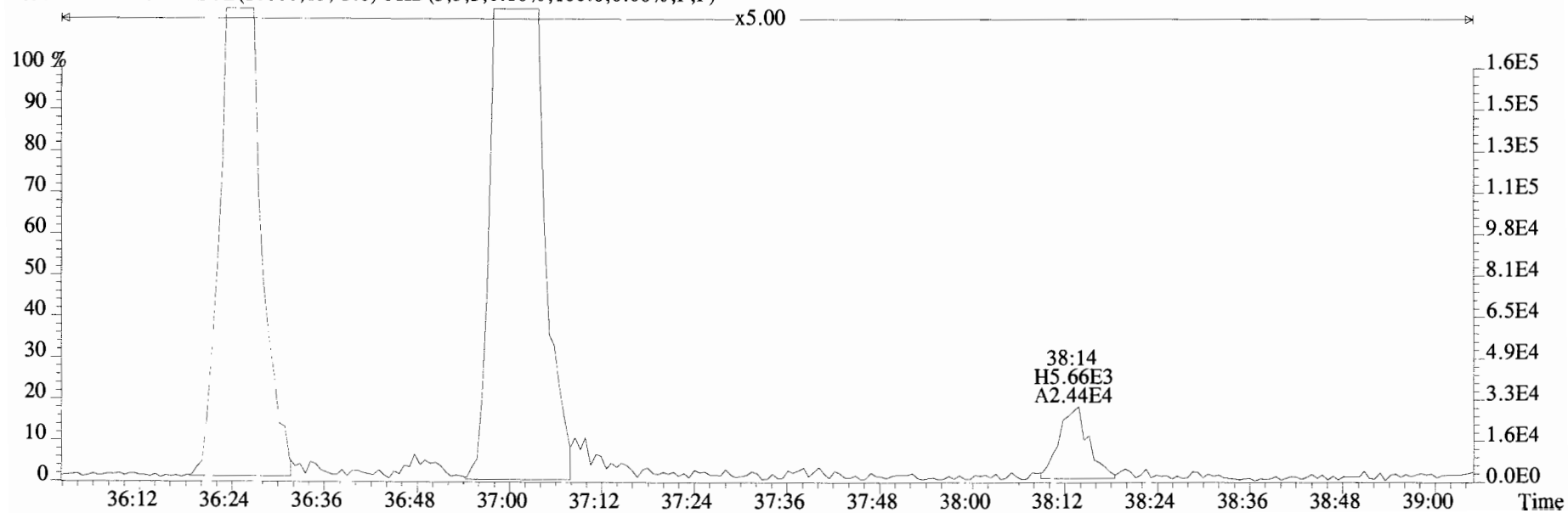
File:190626D2 #1-355 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
407.7818 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190626D2 #1-355 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5
407.7818 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



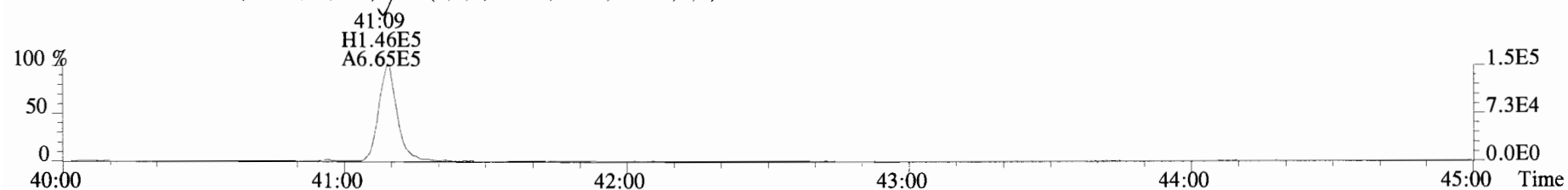
409.7788 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



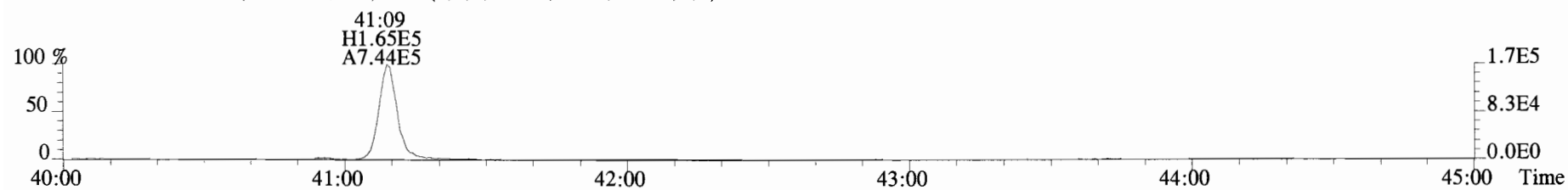
File:190626D2 #1-432 Acq:27-JUN-2019 14:13:13 GC EI+ Voltage SIR Autospec-UltimaE

Sample#13 Text:1901246-03 T4-PDI2019-SC12-190521-05-07 6.89 Exp:OCDD_DB5

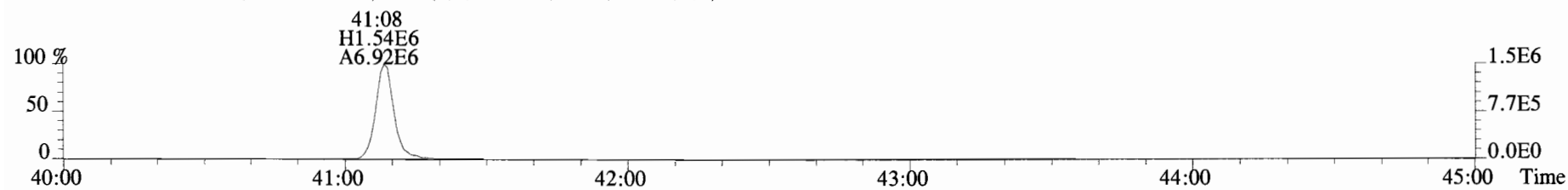
441.7428 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



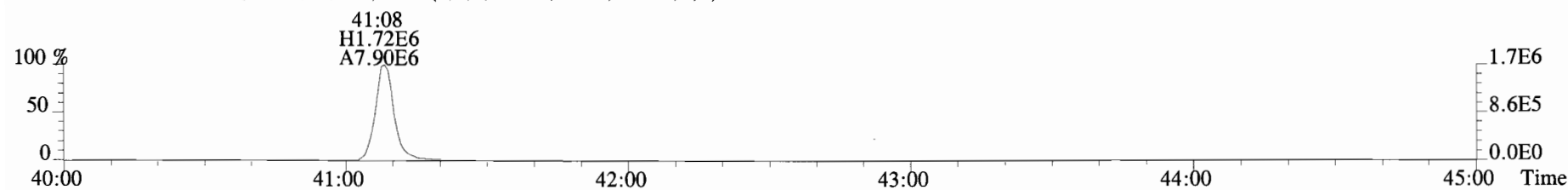
443.7398 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



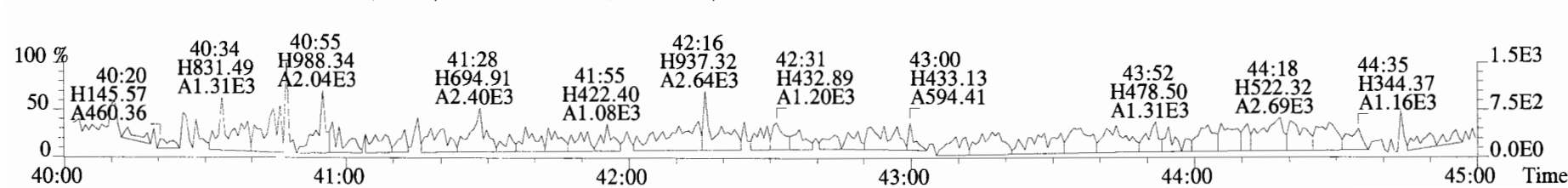
453.7831 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC12-190521η Filename: 190626D2 S:14 Acq:27-JUN-19 15:01:00

ConCal: ST190626D2-1

Page 13 of 13

Lab ID: 1901246-04

GC Column ID: ZB-5MS

ICal: 1613VG7-5-10-19

wt/vol: 5.065

EndCAL: NA

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	*	* n	0.90	NotFη	*		199	2.5	0.197	Total Tetra-Dioxins	*	*		199	0.197
	1,2,3,7,8-PeCDD	*	* n	0.87	NotFη	*		176	2.5	0.143	Total Penta-Dioxins	*	*		176	0.143
	1,2,3,4,7,8-HxCDD	*	* n	1.05	NotFη	*		185	2.5	0.235	Total Hexa-Dioxins	*	0.371		*	*
	1,2,3,6,7,8-HxCDD	*	* n	0.93	NotFη	*		185	2.5	0.234	Total Hepta-Dioxins	1.87	1.87		*	*
	1,2,3,7,8,9-HxCDD	*	* n	0.96	NotFη	*		185	2.5	0.253	Total Tetra-Furans	*	*		189	0.144
	1,2,3,4,6,7,8-HpCDD	1.52e+04	0.91 y	0.99	37:40	0.80870		*	2.5	*	Total Penta-Furans	0.0000	0.0000		176	0.149
	OCDD	1.17e+05	0.84 y	0.99	40:57	7.0475		*	2.5	*	Total Hexa-Furans	*	*		196	0.122
											Total Hepta-Furans	*	*		234	0.187
	2,3,7,8-TCDF	*	* n	0.94	NotFη	*		189	2.5	0.144						
	1,2,3,7,8-PeCDF	*	* n	0.92	NotFη	*		176	2.5	0.154						
	2,3,4,7,8-PeCDF	*	* n	0.96	NotFη	*		176	2.5	0.144						
	1,2,3,4,7,8-HxCDF	*	* n	1.15	NotFη	*		196	2.5	0.104						
	1,2,3,6,7,8-HxCDF	*	* n	1.04	NotFη	*		196	2.5	0.105						
	2,3,4,6,7,8-HxCDF	*	* n	1.10	NotFη	*		196	2.5	0.112						
	1,2,3,7,8,9-HxCDF	*	* n	1.03	NotFη	*		196	2.5	0.173						
	1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotFη	*		234	2.5	0.186						
	1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotFη	*		234	2.5	0.187						
	OCDF	*	* n	0.94	NotFη	*		215	2.5	0.272						
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	8.25e+06	0.78 y	1.11	26:02	297.48					75.3					
IS	13C-1,2,3,7,8-PeCDD	7.73e+06	0.64 y	0.98	30:31	315.75					80.0					
IS	13C-1,2,3,4,7,8-HxCDD	6.03e+06	1.28 y	0.68	33:48	358.32					90.7					
IS	13C-1,2,3,6,7,8-HxCDD	7.85e+06	1.29 y	0.84	33:54	374.00					94.7					
IS	13C-1,2,3,7,8,9-HxCDD	7.55e+06	1.25 y	0.81	34:13	372.98					94.5					
IS	13C-1,2,3,4,6,7,8-HpCDD	7.53e+06	1.06 y	0.69	37:40	440.15					111					
IS	13C-OCDD	1.33e+07	0.92 y	0.62	40:56	851.83					108					
IS	13C-2,3,7,8-TCDF	1.09e+07	0.78 y	1.05	25:17	269.13					68.2					
IS	13C-1,2,3,7,8-PeCDF	1.19e+07	1.58 y	0.95	29:21	324.28					82.1					
IS	13C-2,3,4,7,8-PeCDF	1.11e+07	1.61 y	0.94	30:15	308.65					78.2					
IS	13C-1,2,3,4,7,8-HxCDF	7.91e+06	0.50 y	0.86	32:55	370.32					93.8					
IS	13C-1,2,3,6,7,8-HxCDF	9.53e+06	0.50 y	1.02	33:03	373.99					94.7					
IS	13C-2,3,4,6,7,8-HxCDF	8.85e+06	0.51 y	0.95	33:38	372.81					94.4					
IS	13C-1,2,3,7,8,9-HxCDF	8.08e+06	0.50 y	0.87	34:37	373.91					94.7					
IS	13C-1,2,3,4,6,7,8-HpCDF	8.16e+06	0.43 y	0.81	36:25	404.74					102					
IS	13C-1,2,3,4,7,8,9-HpCDF	6.88e+06	0.43 y	0.63	38:14	436.51					111					
IS	13C-OCDF	1.54e+07	0.92 y	0.78	41:10	790.99					100					
C/Up	37Cl-2,3,7,8-TCDD	3.49e+06		1.22	26:03	114.42					72.4					
RS/RT	13C-1,2,3,4-TCDD	9.91e+06	0.79 y	1.00	25:27	394.89						Integrations	Reviewed			
RS	13C-1,2,3,4-TCDF	1.52e+07	0.80 y	1.00	24:02	394.89						by	by			
RS/RT	13C-1,2,3,4,6,9-HxCDF	9.85e+06	0.51 y	1.00	33:20	394.89						Analyst: <u>DB</u>	Analyst: <u>CT</u>			
												Date: <u>7/29/19</u>	Date: <u>08/08/19</u>			

Totals class: HxCDD EMPC

Entry #: 23

Run: 19

File: 190626D2

S: 14 I: 1 F: 3

Acquired: 27-JUN-19 15:01:00

Processed: 27-JUN-19 17:02:11

Total Concentration: 0.37085

Unnamed Concentration: 0.371

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:16	4.329e+03	2.923e+03	1.48 n	6.547e+03	0.37085

Totals class: HpCDD EMPC

Entry #: 25

Run: 19

File: 190626D2

S: 14 I: 1 F: 4

Acquired: 27-JUN-19 15:01:00

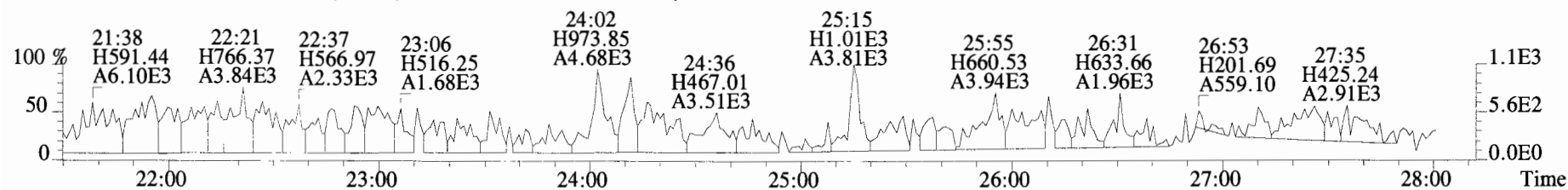
Processed: 27-JUN-19 17:02:11

Total Concentration: 1.8683

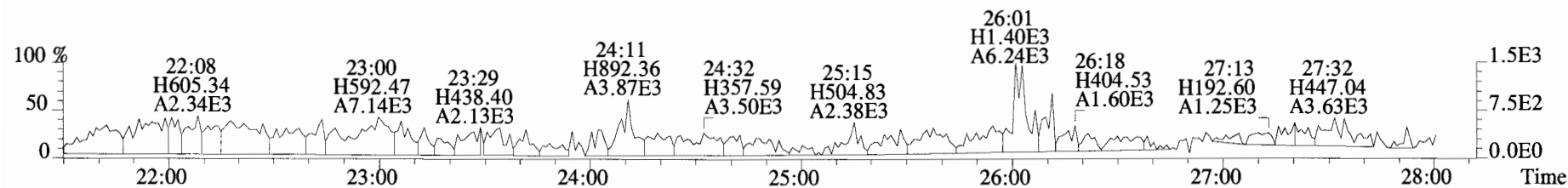
Unnamed Concentration: 1.060

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:51	9.704e+03	1.026e+04	0.95 y	1.997e+04	1.0596
37:40	7.280e+03	7.958e+03	0.91 y	1.524e+04	0.80870 1,2,3,4,6,7,8-HpCDD

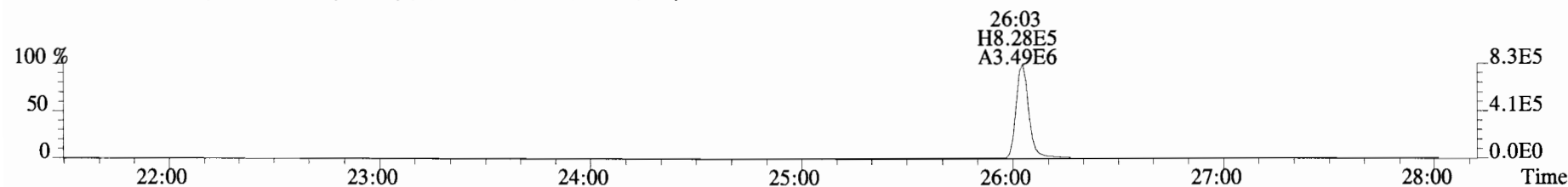
File:190626D2 #1-514 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
319.8965 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



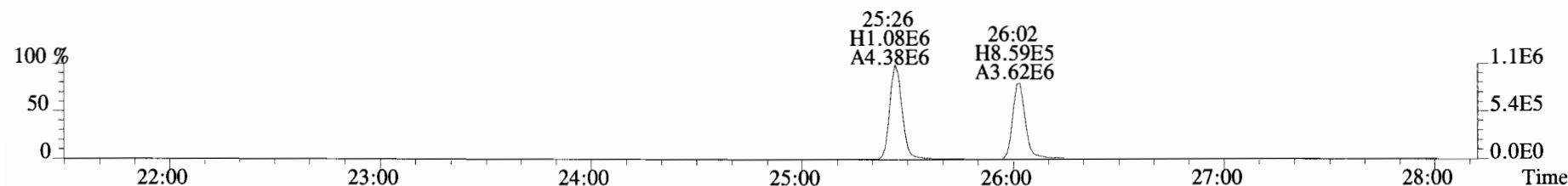
321.8936 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



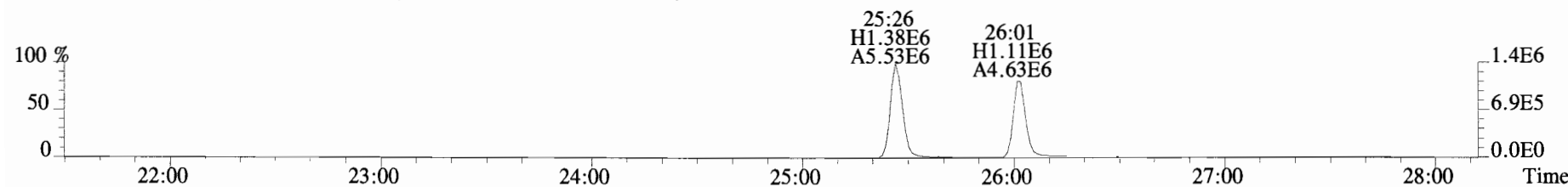
327.8847 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



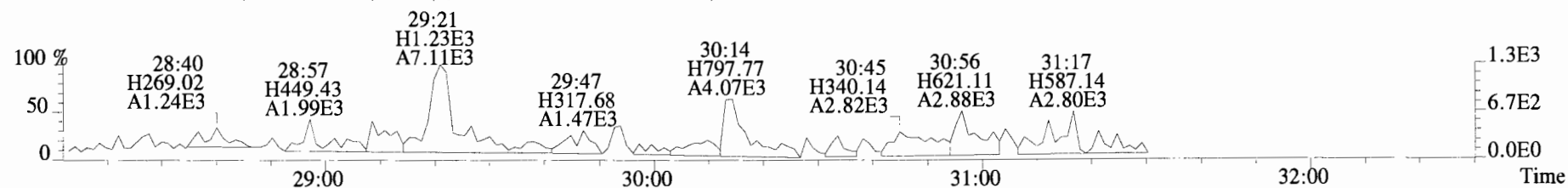
331.9368 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



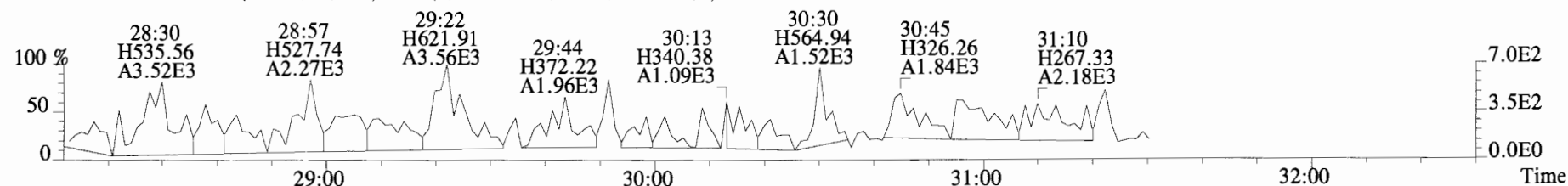
333.9339 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



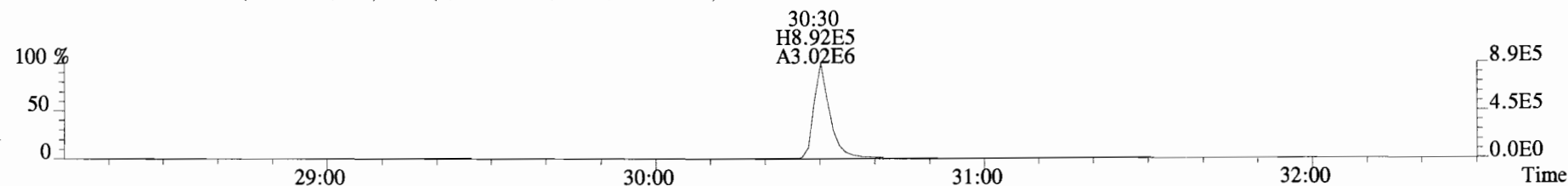
File:190626D2 #1-184 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
353.8576 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



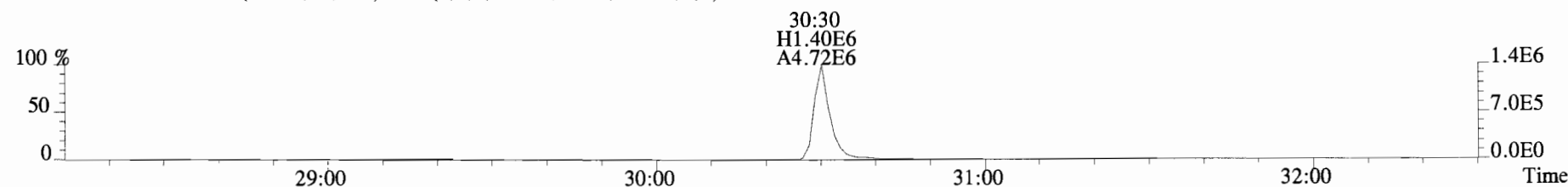
355.8546 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



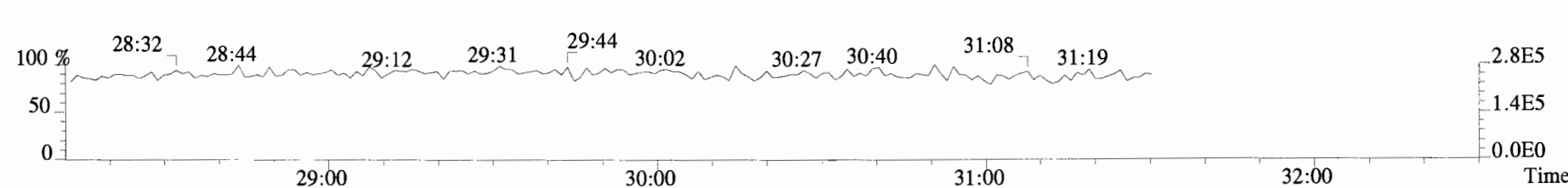
365.8978 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



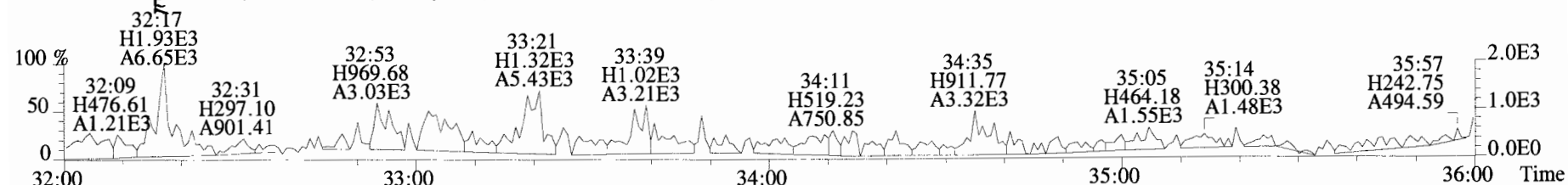
367.8949 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



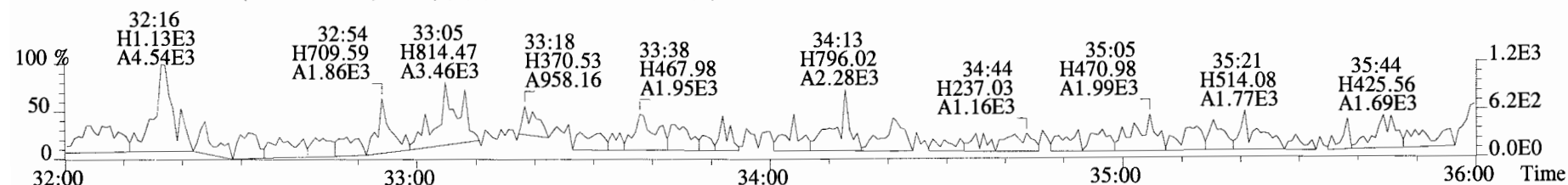
366.9792 S:14 F:2



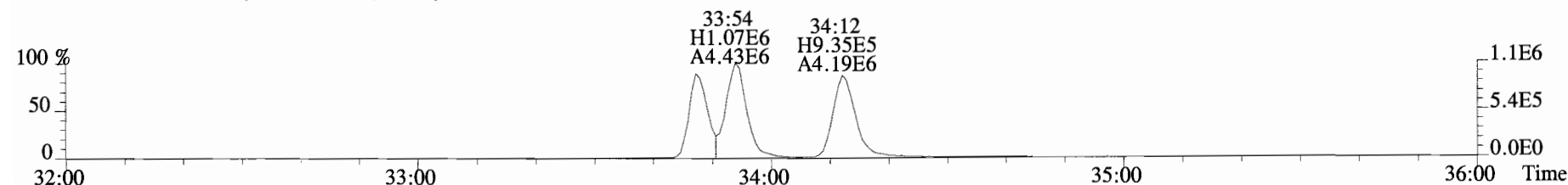
File:190626D2 #1-400 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
389.8156 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



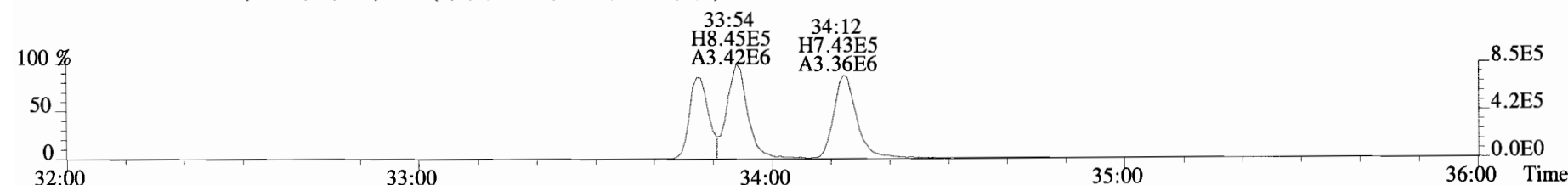
391.8127 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



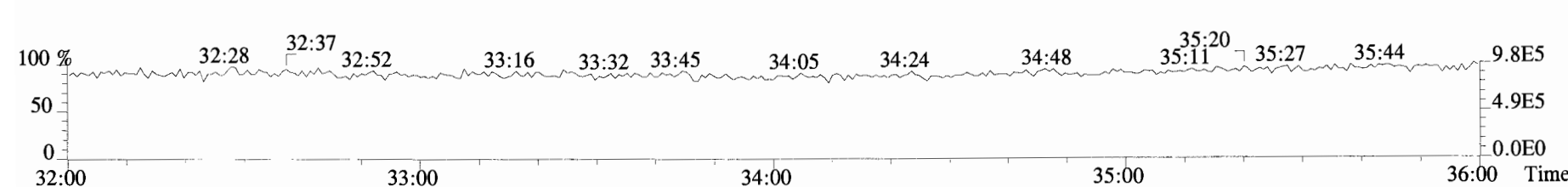
401.8559 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



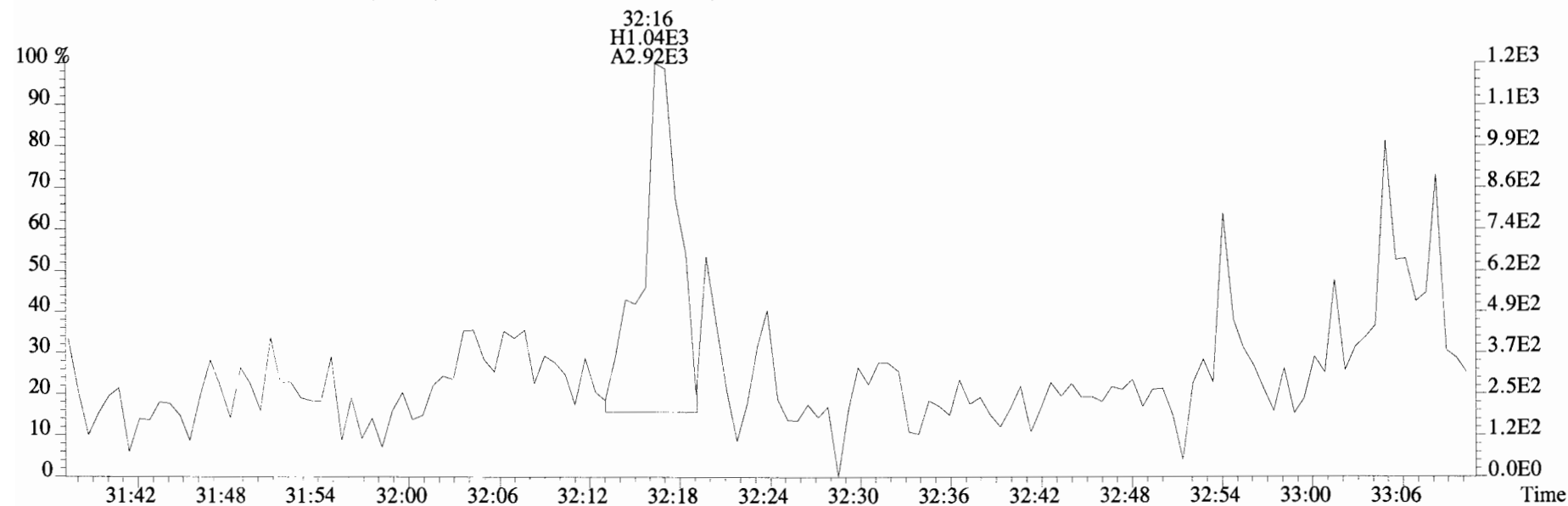
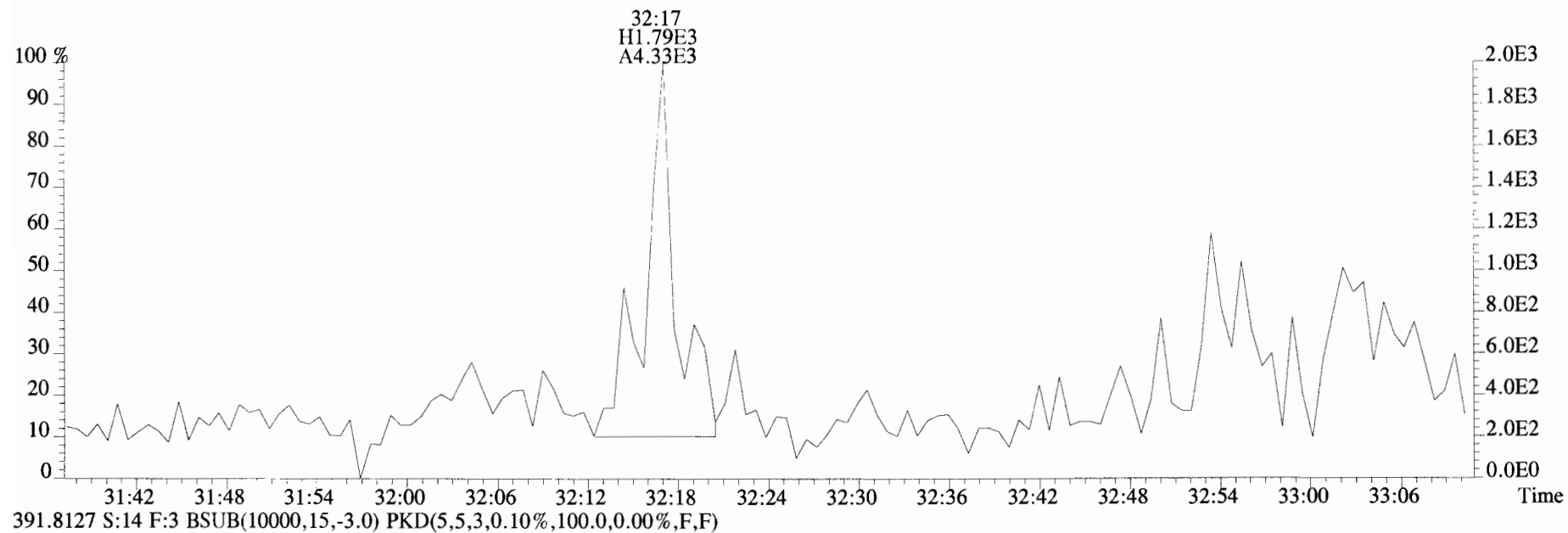
403.8530 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



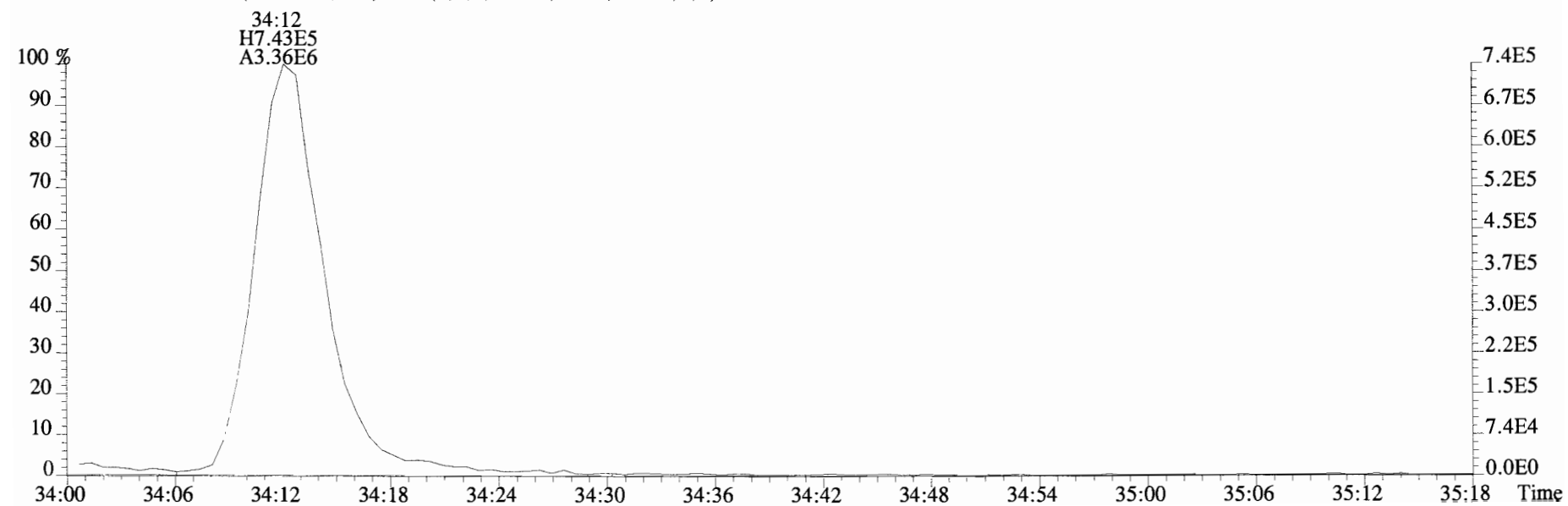
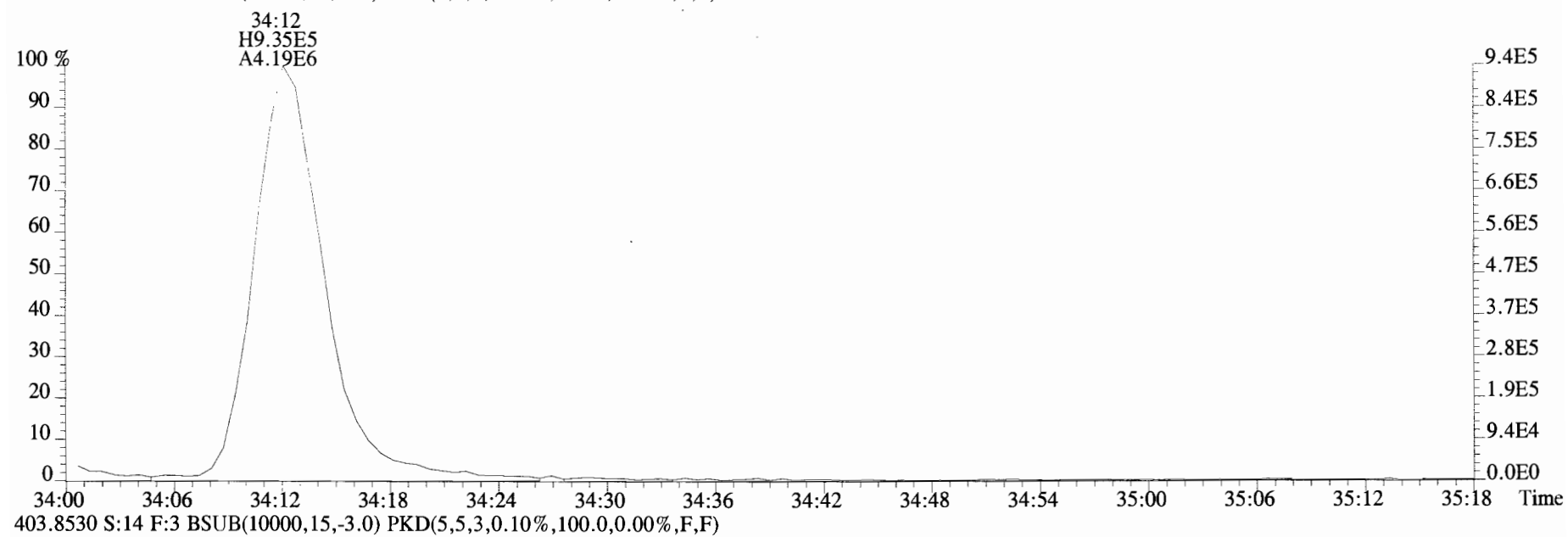
392.9760 S:14 F:3



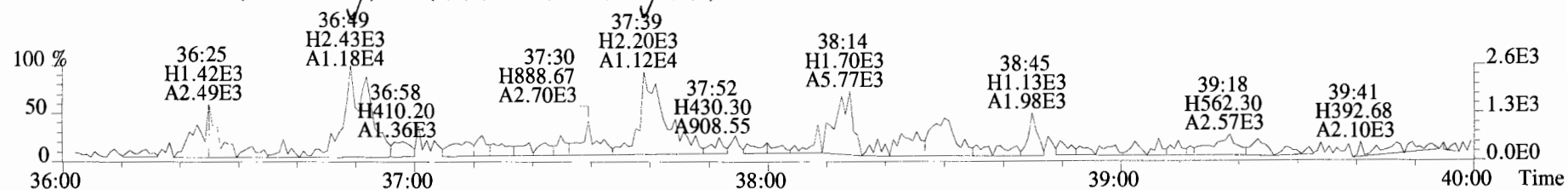
File:190626D2 #1-400 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
389.8156 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



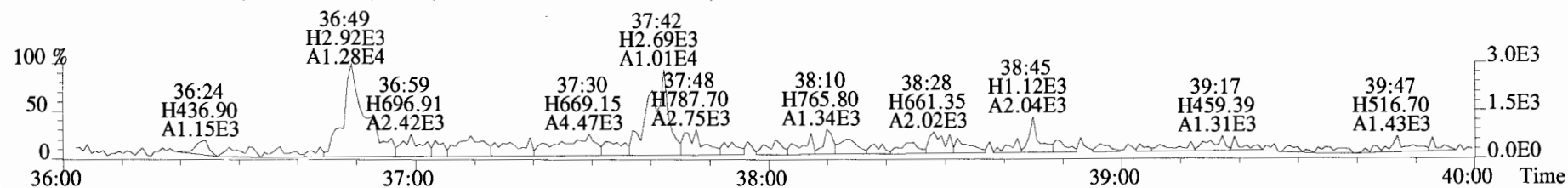
File:190626D2 #1-400 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
401.8559 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



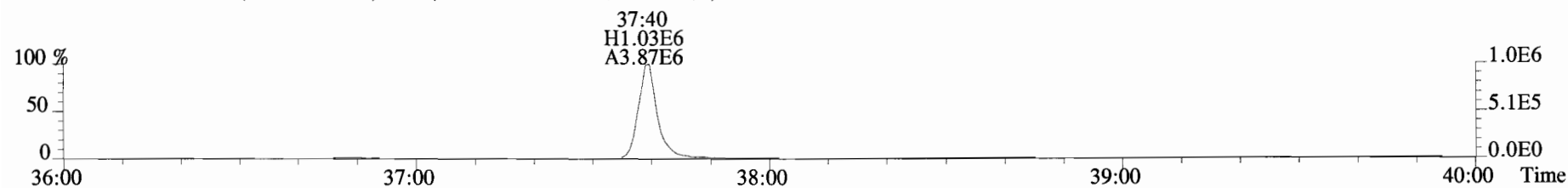
File:190626D2 #1-355 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
423.7767 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



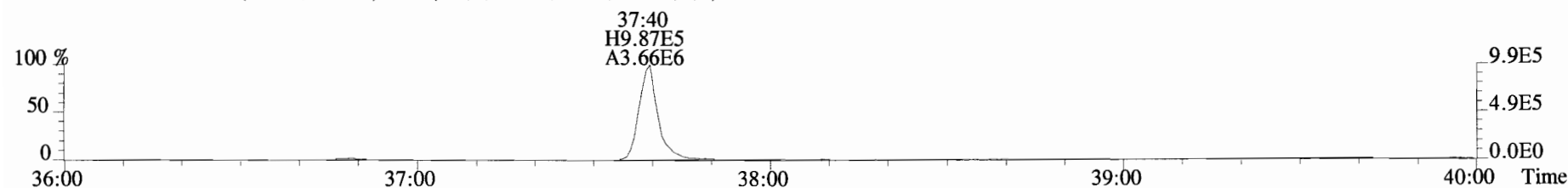
425.7737 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



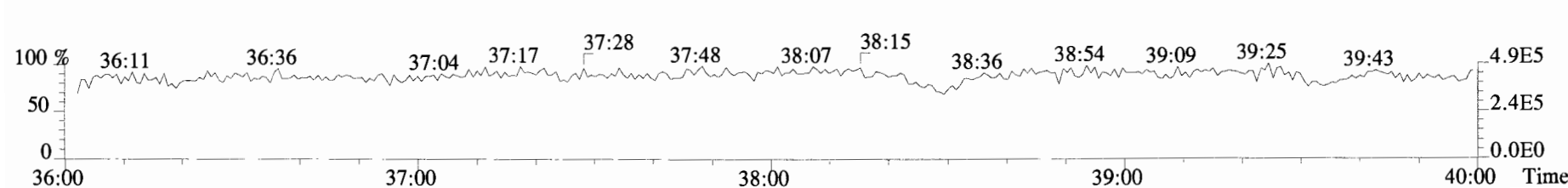
435.8169 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



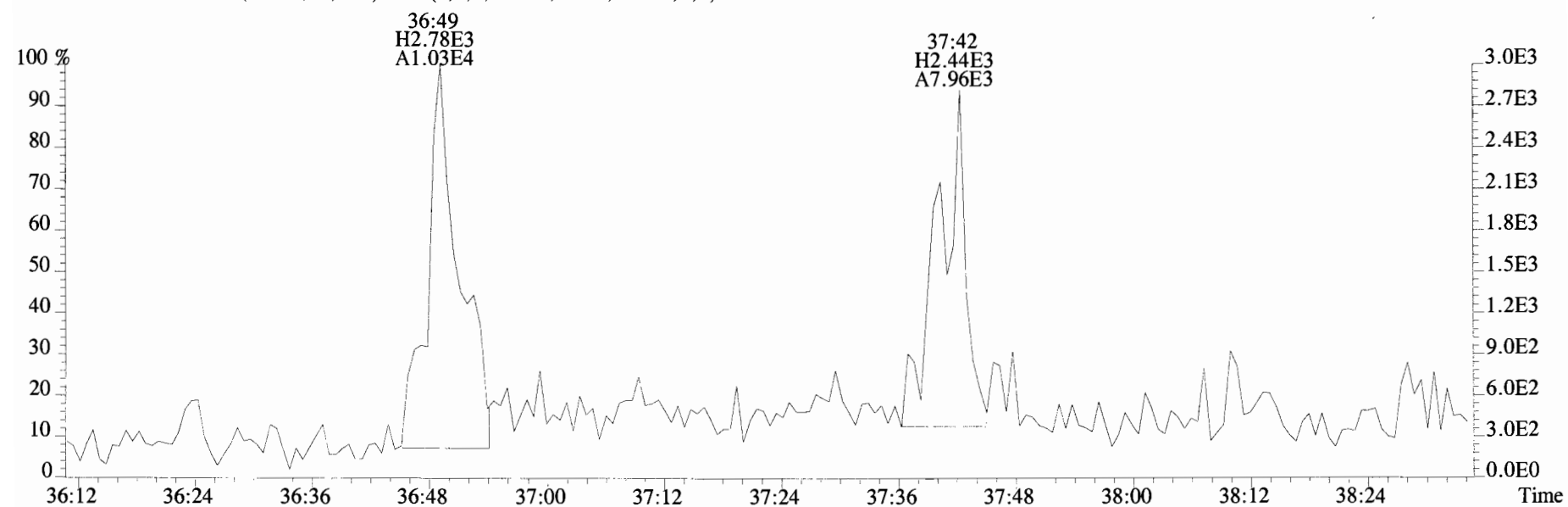
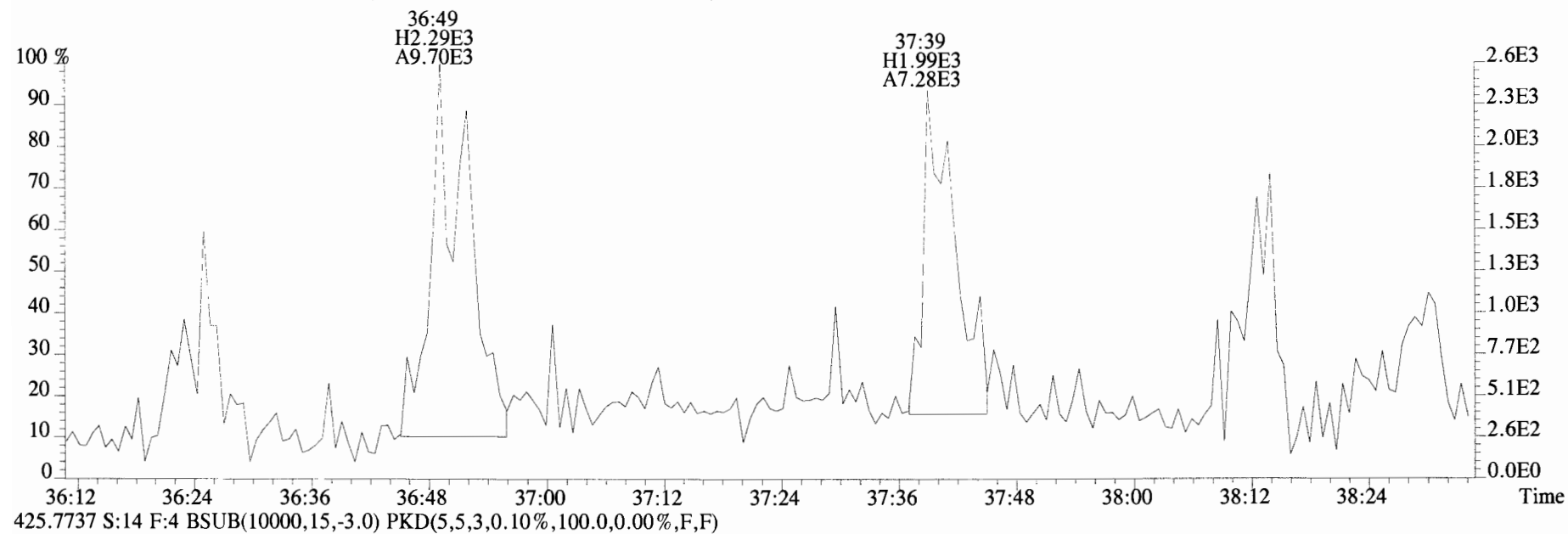
437.8140 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



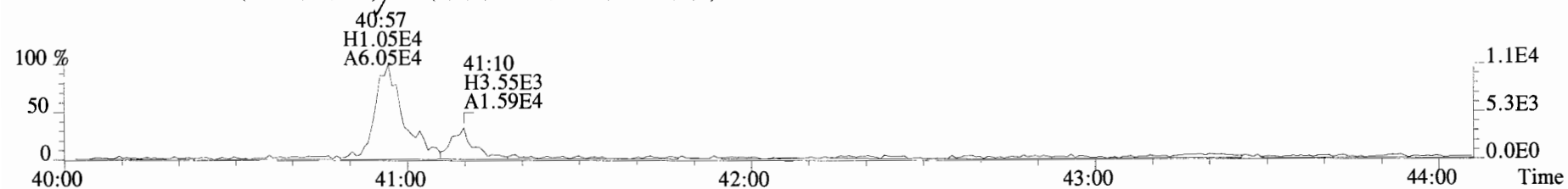
454.9728 S:14 F:4



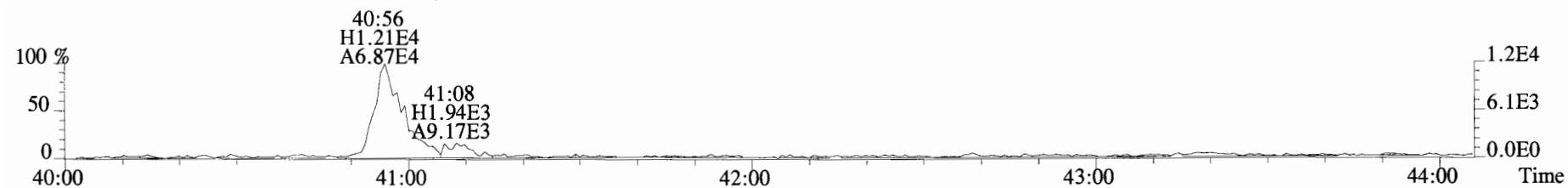
File:190626D2 #1-355 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
423.7767 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



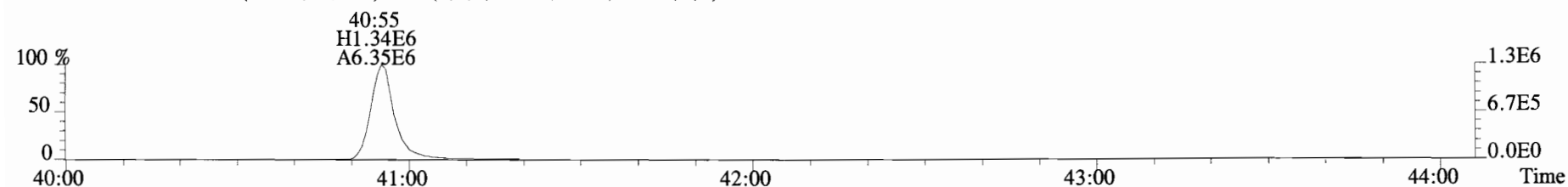
File:190626D2 #1-432 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD DB5
457.7377 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



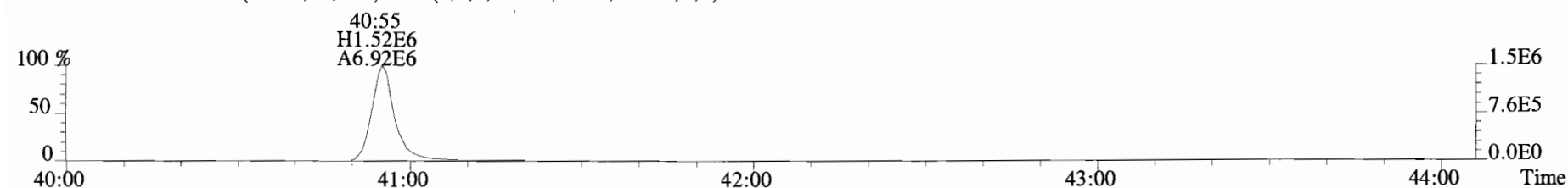
459.7348 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



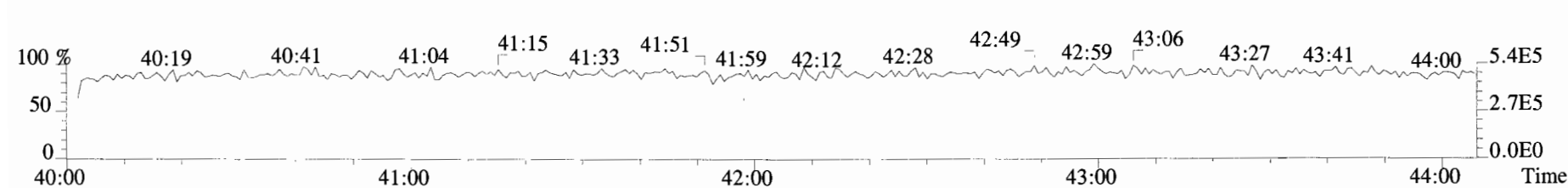
469.7780 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



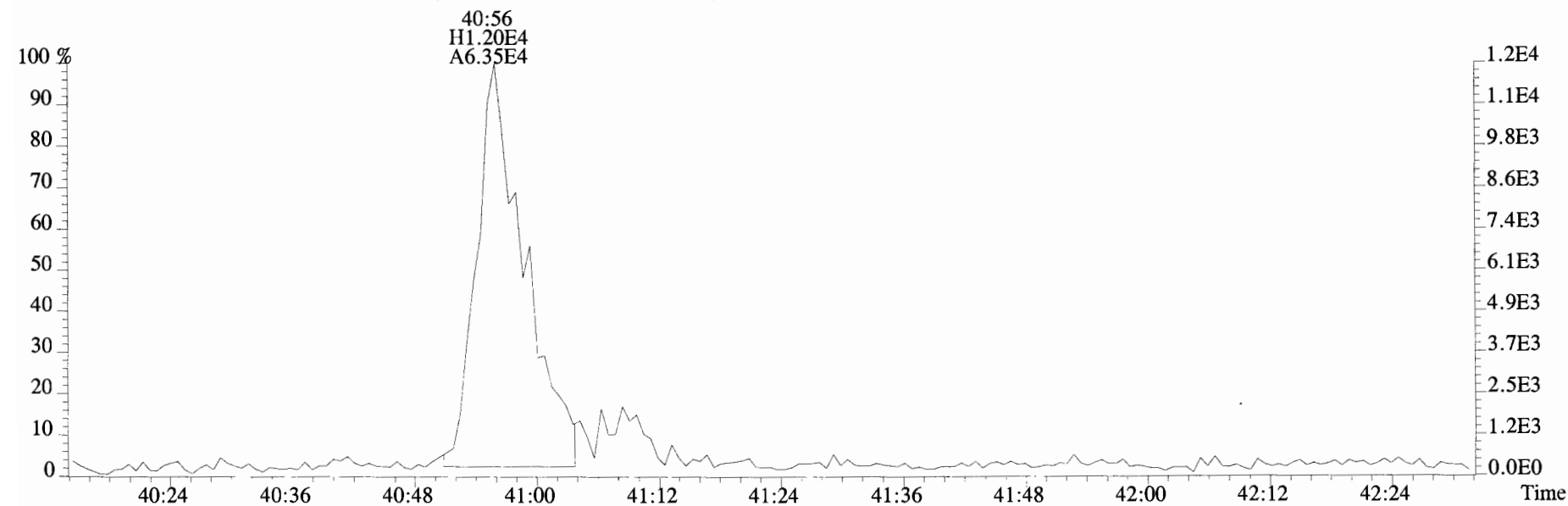
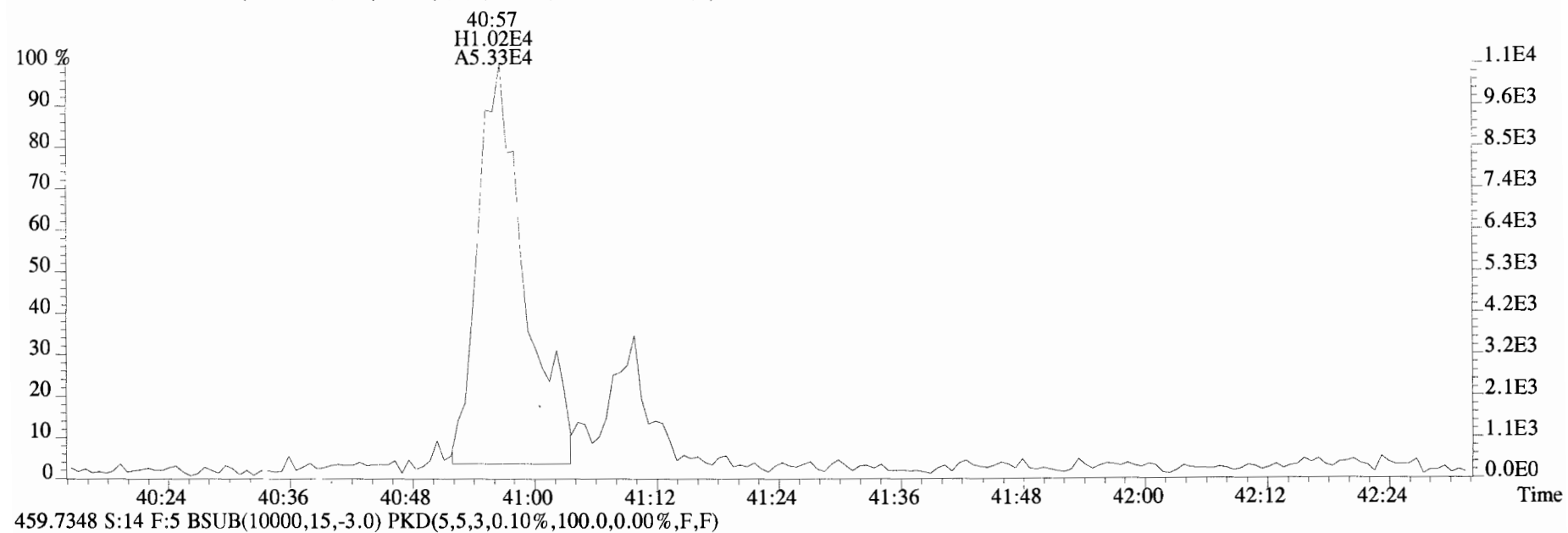
471.7750 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



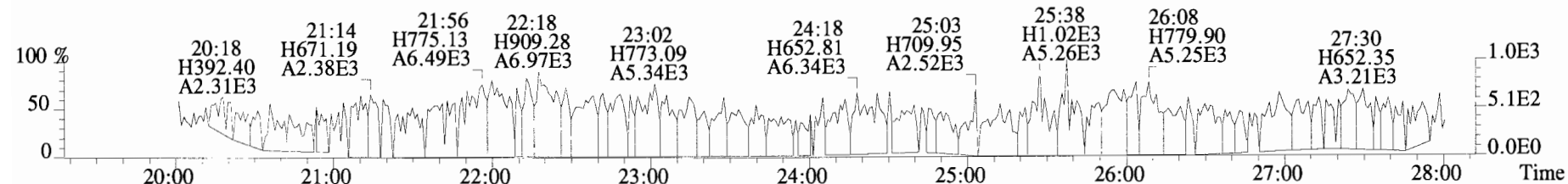
454.9728 S:14 F:5



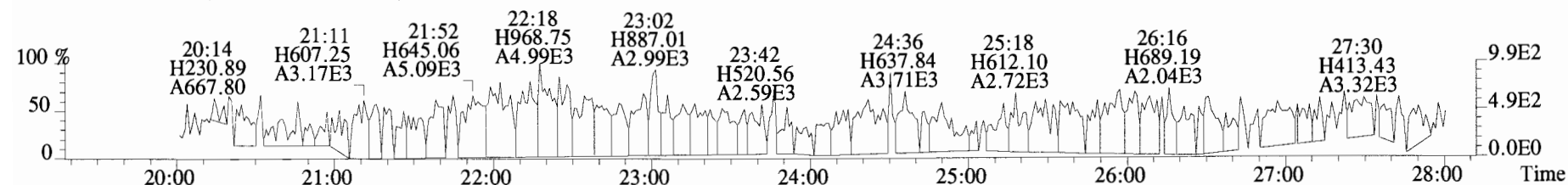
File:190626D2 #1-432 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
457.7377 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



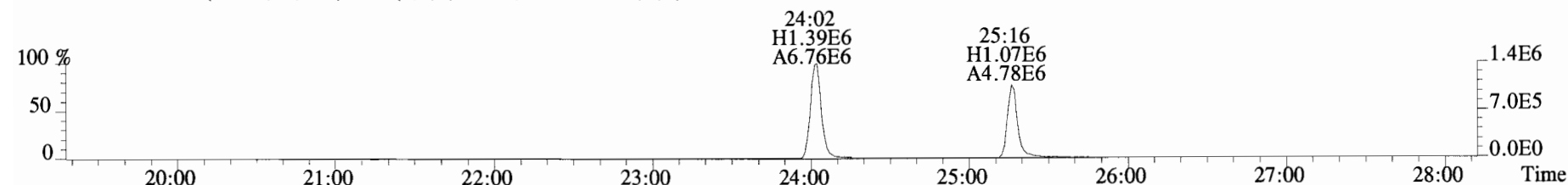
File:190626D2 #1-514 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
303.9016 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



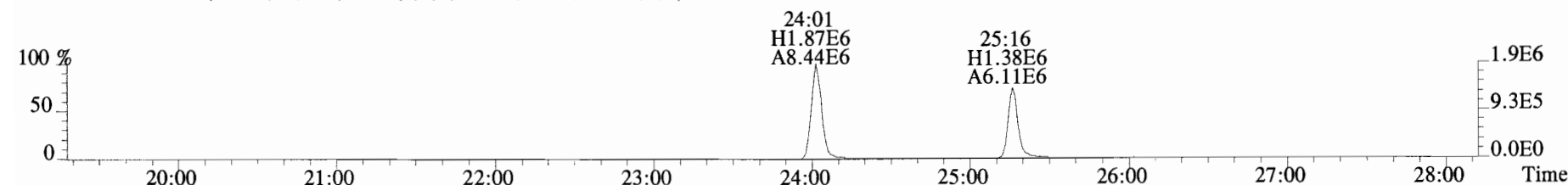
305.8987 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



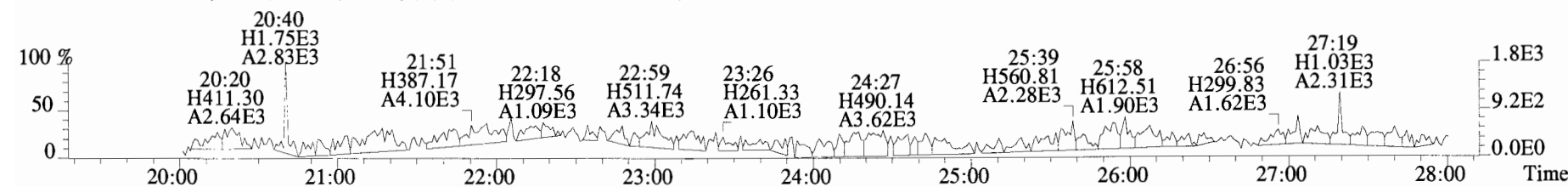
315.9419 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



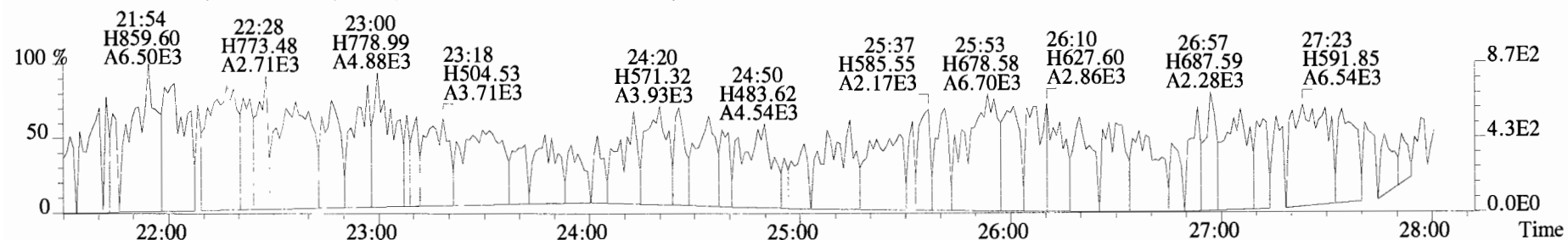
317.9389 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



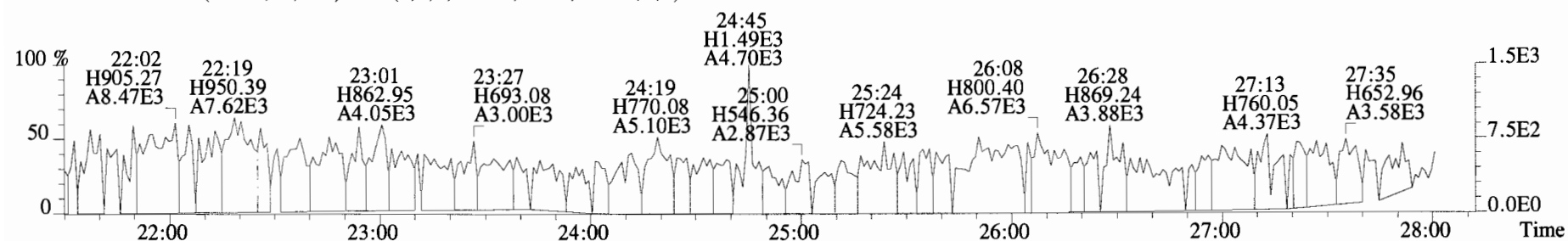
375.8364 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



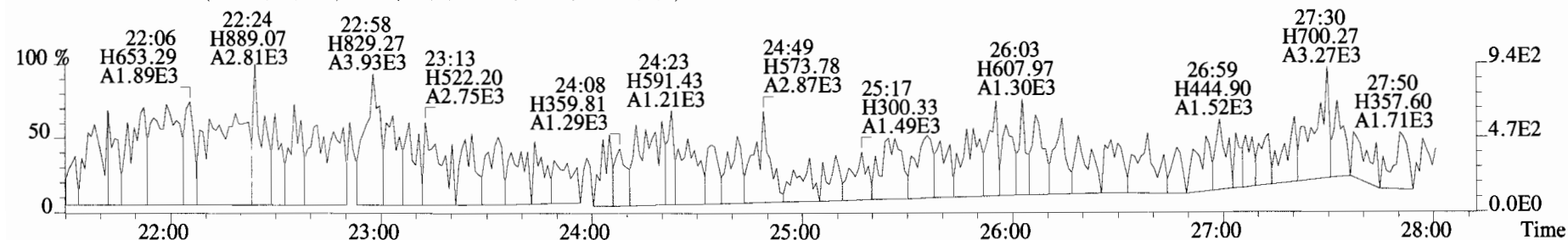
File:190626D2 #1-514 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
339.8597 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



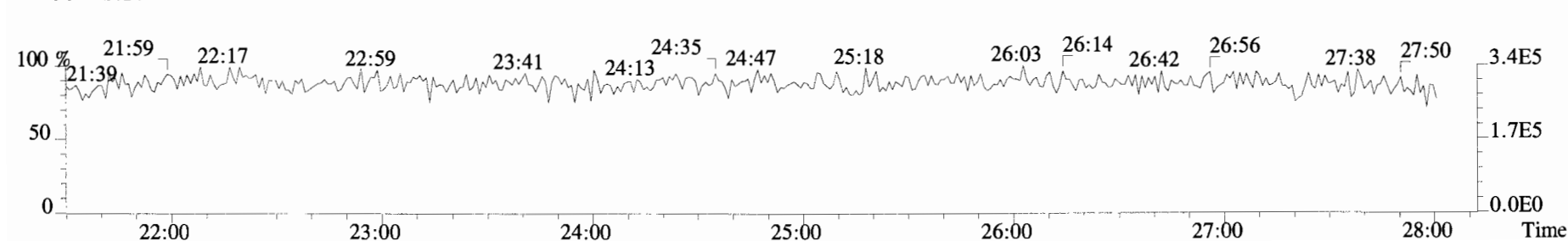
341.8568 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



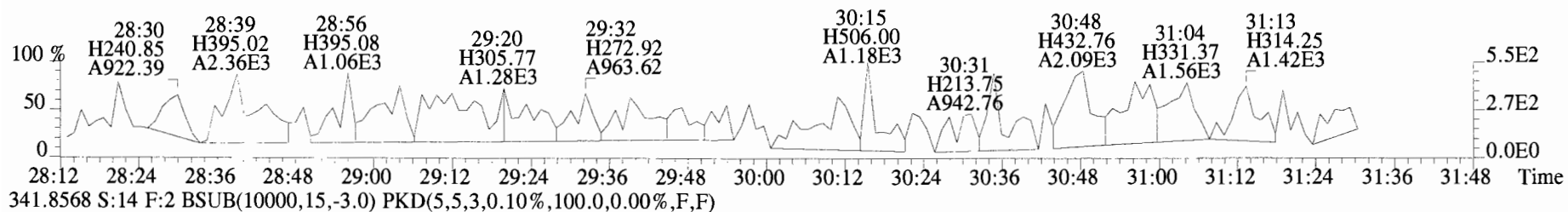
409.7974 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



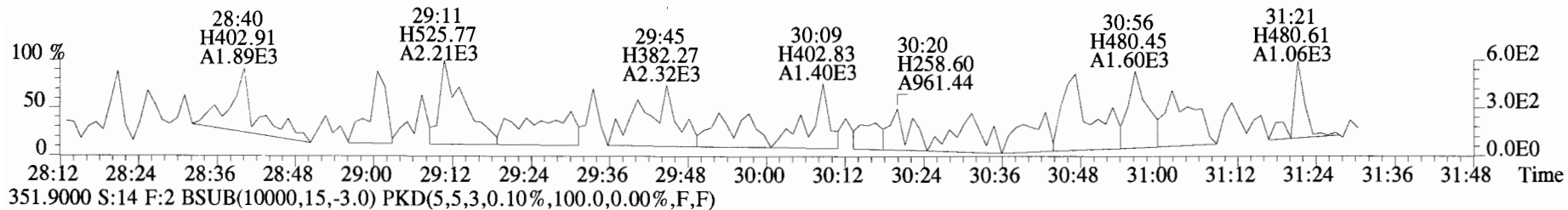
316.9824 S:14



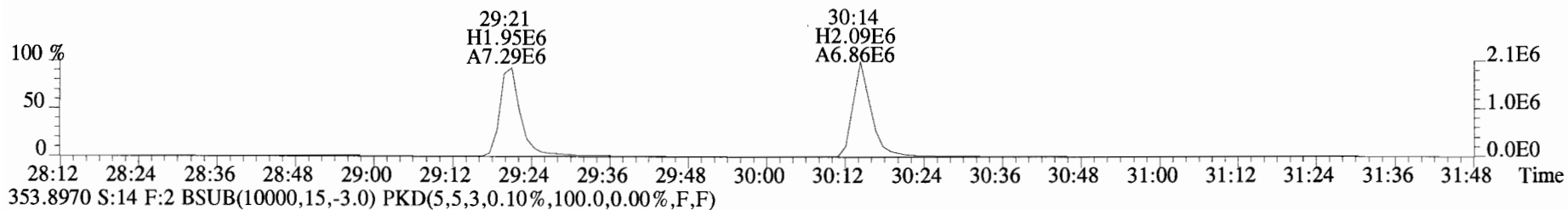
File:190626D2 #1-184 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
339.8597 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



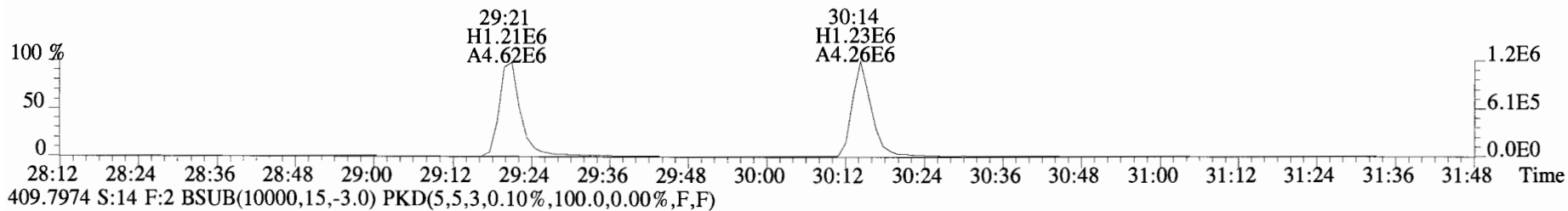
341.8568 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



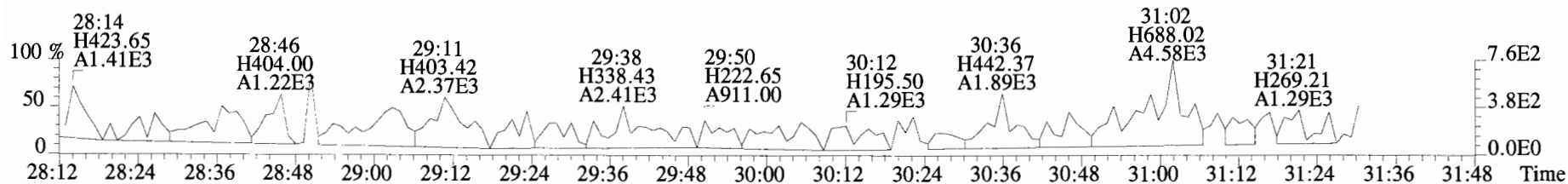
351.9000 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



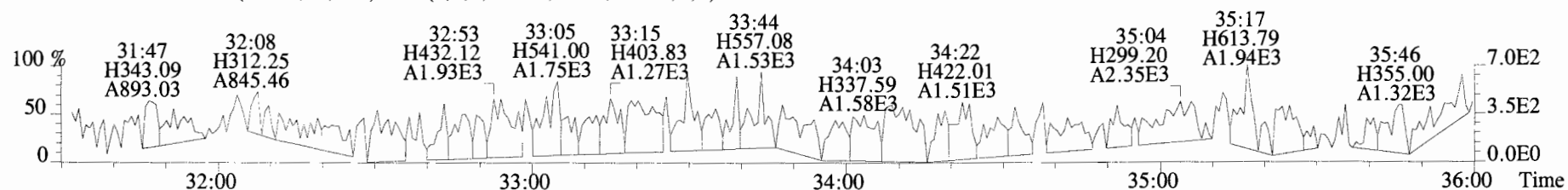
353.8970 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



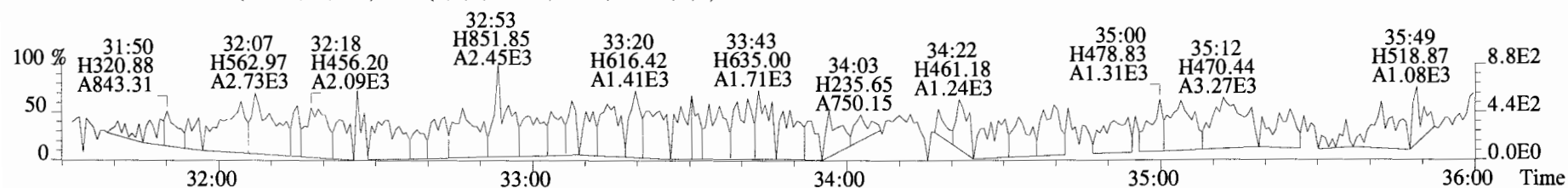
409.7974 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



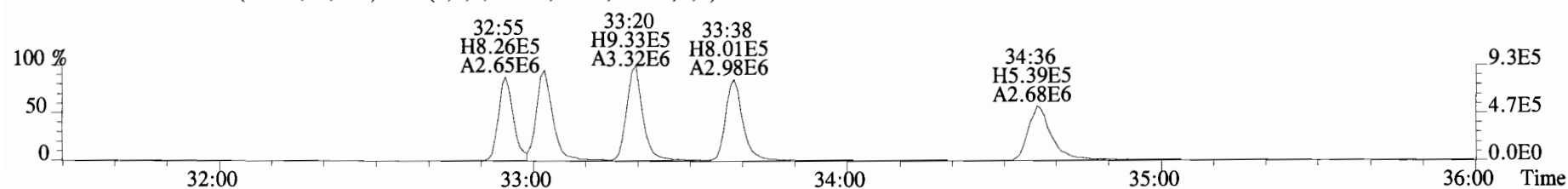
File:190626D2 #1-400 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
373.8207 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



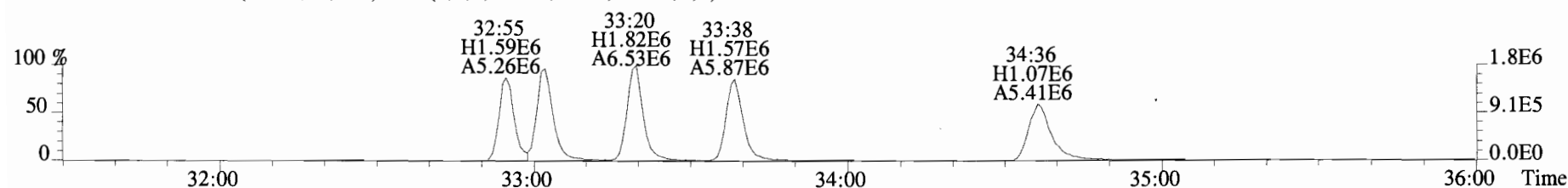
375.8178 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



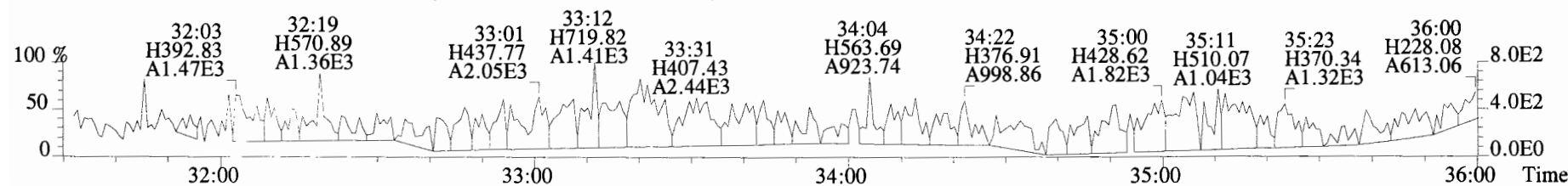
383.8639 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



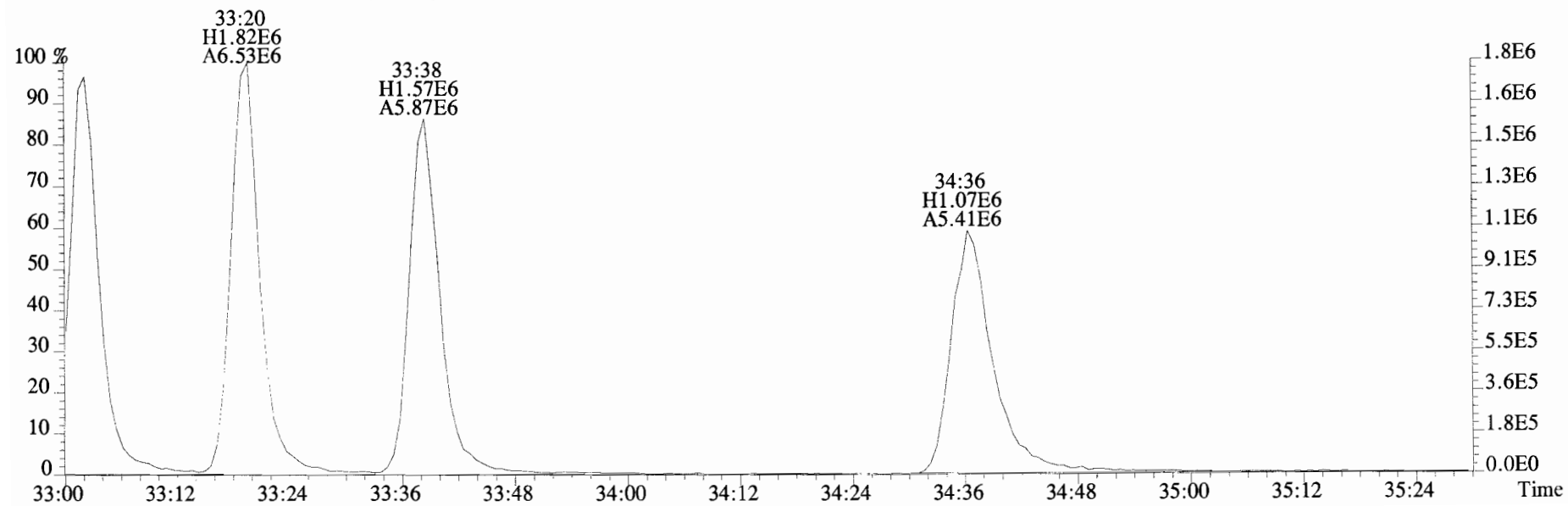
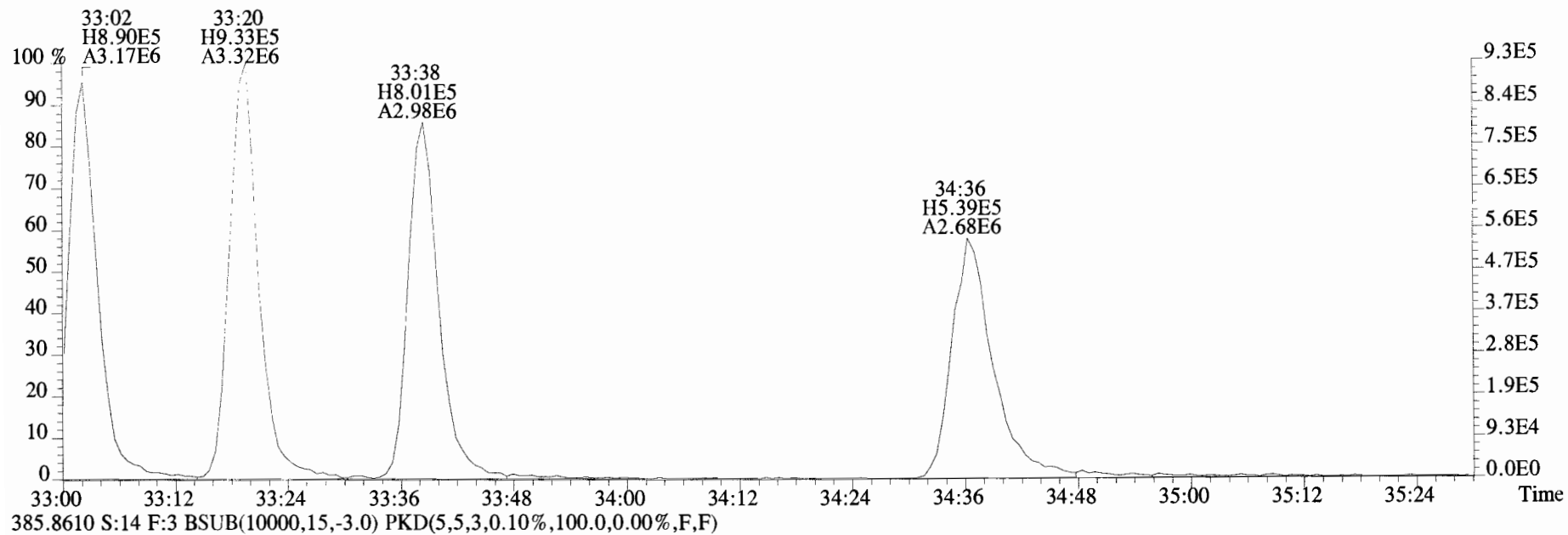
385.8610 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



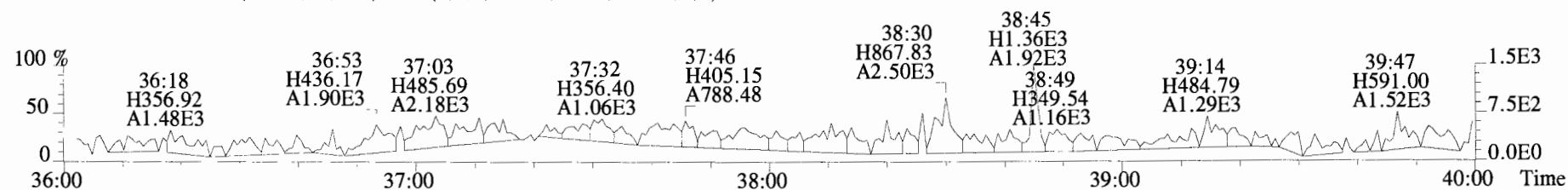
445.7555 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



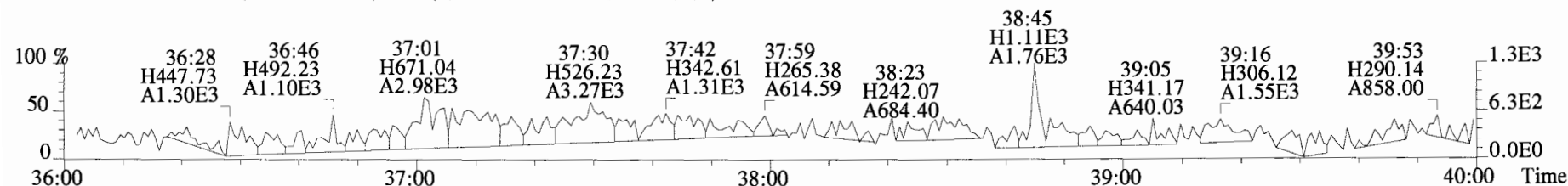
File:190626D2 #1-400 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
383.8639 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



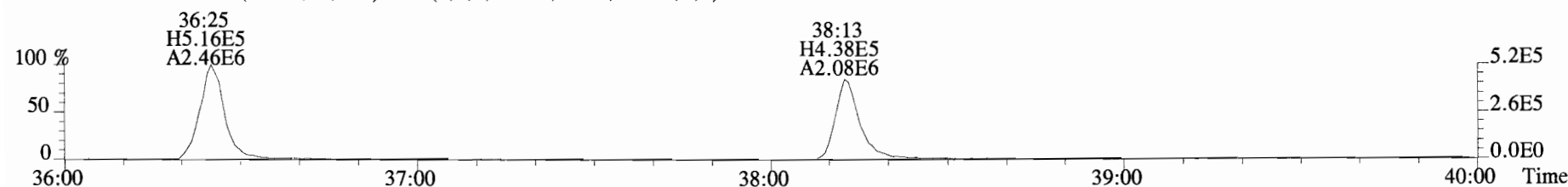
File:190626D2 #1-355 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
 407.7818 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



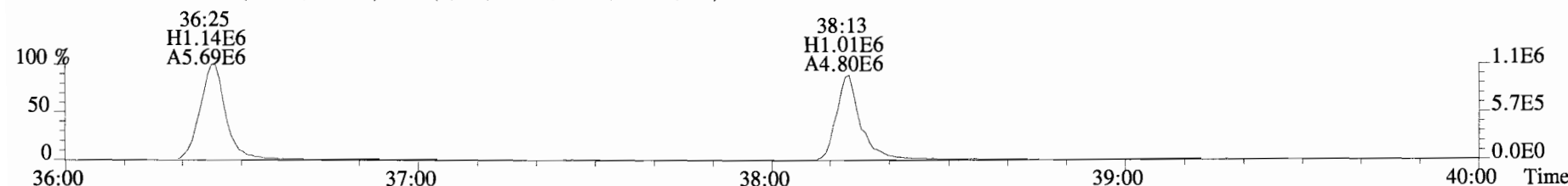
409.7788 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



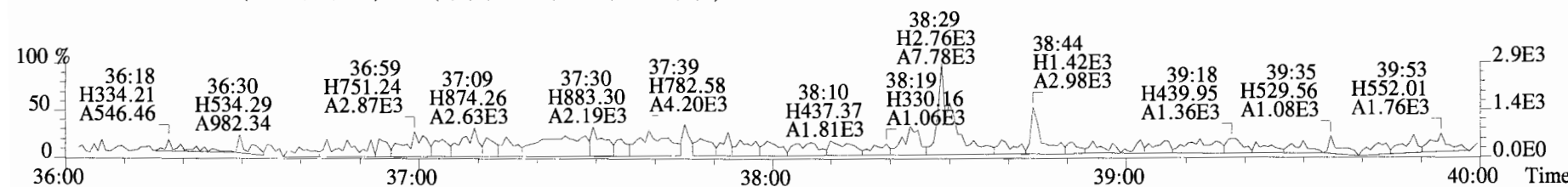
417.8253 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



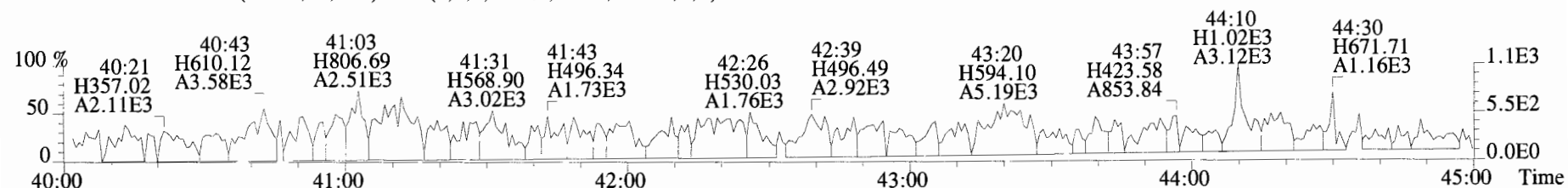
419.8220 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



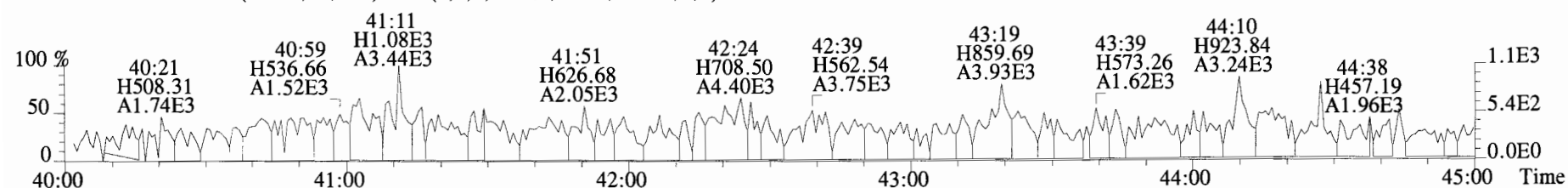
479.7165 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



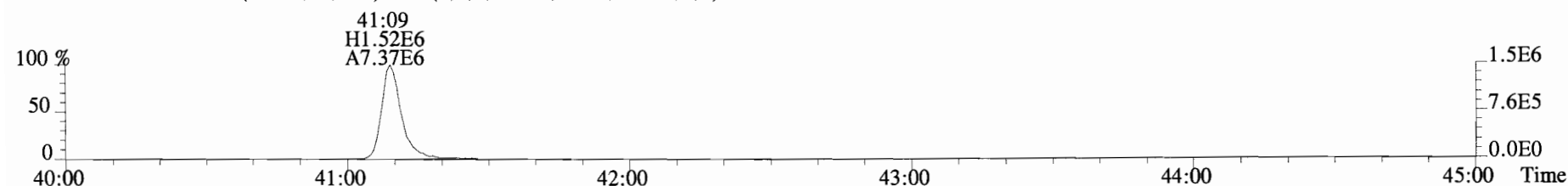
File:190626D2 #1-432 Acq:27-JUN-2019 15:01:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 Text:1901246-04 T4-PDI2019-SC12-190521-07-8.3 6.11 Exp:OCDD_DB5
441.7428 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



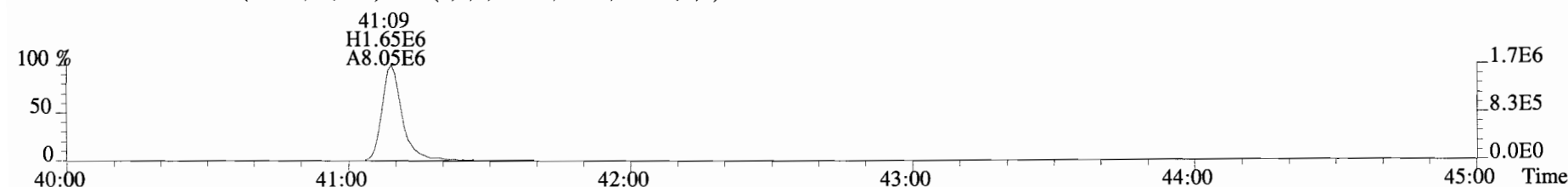
443.7398 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



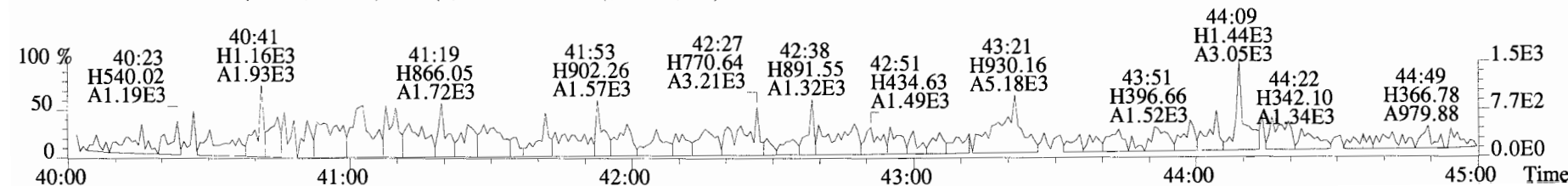
453.7831 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: FD-201905211556
Lab ID: 1901246-05

Filename: 190626D2 S:15 Acq:27-JUN-19 15:48:43
GC Column ID: ZB-SMS ICal: 1613VG7-5-10-19

wt/vol: 5.003 ✓

ConCal: ST190626D2-1
EndCAL: NA

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Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF ₇	*		224	2.5	0.212
1,2,3,7,8-PeCDD	*	* n	0.87	NotF ₇	*		228	2.5	0.211
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF ₇	*		176	2.5	0.207
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF ₇	*		176	2.5	0.224
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF ₇	*		176	2.5	0.230
1,2,3,4,6,7,8-HpCDD	1.37e+04	1.14 y	0.99	37:40	0.74716		*	2.5	*
OCDD	1.00e+05	0.91 y	0.99	40:56	5.8941		*	2.5	*
2,3,7,8-TCDF	*	* n	0.94	NotF ₇	*		189	2.5	0.145
1,2,3,7,8-PeCDF	*	* n	0.92	NotF ₇	*		173	2.5	0.168
2,3,4,7,8-PeCDF	*	* n	0.96	NotF ₇	*		173	2.5	0.152
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF ₇	*		176	2.5	0.0939
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF ₇	*		176	2.5	0.0943
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF ₇	*		176	2.5	0.105
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF ₇	*		176	2.5	0.169
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF ₇	*		177	2.5	0.155
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF ₇	*		177	2.5	0.142
OCDF	*	* n	0.94	NotF ₇	*		181	2.5	0.216

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		224	0.212
Total Penta-Dioxins	*	*		228	0.211
Total Hexa-Dioxins	*	0.387		*	*
Total Hepta-Dioxins	1.79	1.79		*	*
Total Tetra-Furans	*	*		189	0.145
Total Penta-Furans	0.0000	0.0000		173	0.160
Total Hexa-Furans	*	*		176	0.113
Total Hepta-Furans	*	*		177	0.149

							Rec	Qual
IS	13C-2,3,7,8-TCDD	8.33e+06	0.77 y	1.11	26:02	275.70	69.0	
IS	13C-1,2,3,7,8-PeCDD	7.39e+06	0.64 y	0.98	30:31	277.12	69.3	
IS	13C-1,2,3,4,7,8-HxCDD	6.46e+06	1.28 y	0.68	33:47	338.17	84.6	
IS	13C-1,2,3,6,7,8-HxCDD	7.97e+06	1.27 y	0.84	33:54	334.96	83.8	
IS	13C-1,2,3,7,8,9-HxCDD	8.04e+06	1.25 y	0.81	34:13	350.30	87.6	
IS	13C-1,2,3,4,6,7,8-HpCDD	7.41e+06	1.07 y	0.69	37:39	382.27	95.6	
IS	13C-OCDD	1.38e+07	0.90 y	0.62	40:55	779.25	97.5	
IS	13C-2,3,7,8-TCDF	1.10e+07	0.79 y	1.05	25:17	242.52	60.7	
IS	13C-1,2,3,7,8-PeCDF	1.07e+07	1.62 y	0.95	29:21	257.74	64.5	
IS	13C-2,3,4,7,8-PeCDF	1.04e+07	1.60 y	0.94	30:15	256.62	64.2	
IS	13C-1,2,3,4,7,8-HxCDF	7.89e+06	0.51 y	0.86	32:55	325.60	81.4	
IS	13C-1,2,3,6,7,8-HxCDF	9.68e+06	0.51 y	1.02	33:02	335.20	83.8	
IS	13C-2,3,4,6,7,8-HxCDF	9.27e+06	0.51 y	0.95	33:38	344.29	86.1	
IS	13C-1,2,3,7,8,9-HxCDF	8.00e+06	0.51 y	0.87	34:37	326.49	81.7	
IS	13C-1,2,3,4,6,7,8-HpCDF	7.75e+06	0.43 y	0.81	36:25	339.41	84.9	
IS	13C-1,2,3,4,7,8,9-HpCDF	6.68e+06	0.43 y	0.63	38:13	373.91	93.5	
IS	13C-OCDF	1.60e+07	0.89 y	0.78	41:09	721.87	90.3	

C/Up	37C1-2,3,7,8-TCDD	3.22e+06		1.22	26:03	96.772	60.5	
RS/RT	13C-1,2,3,4-TCDD	1.09e+07	0.80 y	1.00	25:27	399.80		
RS	13C-1,2,3,4-TCDF	1.73e+07	0.79 y	1.00	24:03	399.80		
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.13e+07	0.51 y	1.00	33:19	399.80		

Integrations
by
Analyst: DB
Date: 7/29/19
Reviewed
by
Analyst: CT
Date: 08/02/19

Totals class: HxCDD EMPC

Entry #: 23

Run: 20

File: 190626D2

S: 15 I: 1 F: 3

Acquired: 27-JUN-19 15:48:43

Processed: 27-JUN-19 17:02:12

Total Concentration: 0.38749

Unnamed Concentration: 0.387

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:16	4.652e+03	3.162e+03	1.47 n	7.083e+03	0.38749

Totals class: HpCDD EMPC

Entry #: 25

Run: 20

File: 190626D2

S: 15 I: 1 F: 4

Acquired: 27-JUN-19 15:48:43

Processed: 27-JUN-19 17:02:12

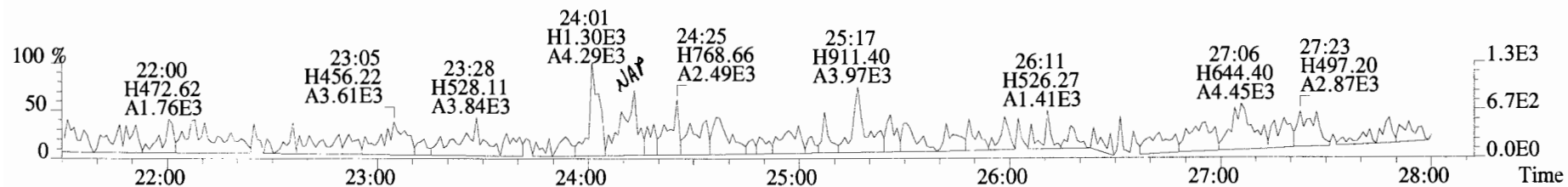
Total Concentration: 1.7919

Unnamed Concentration: 1.045

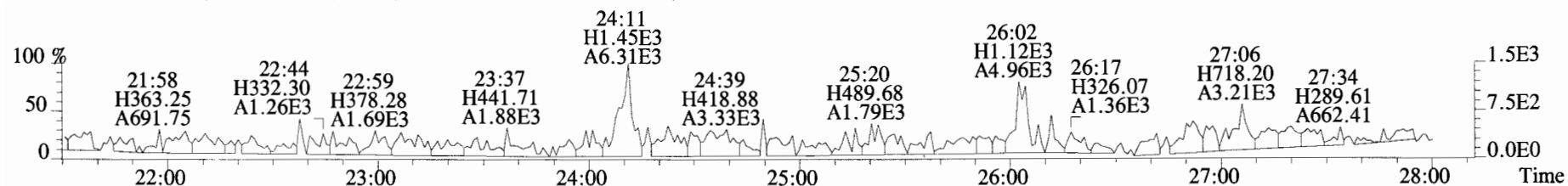
RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:49	1.007e+04	9.076e+03	1.11 y	1.915e+04	1.0447
37:40	7.281e+03	6.413e+03	1.14 y	1.369e+04	0.74716

1,2,3,4,6,7,8-HpCDD

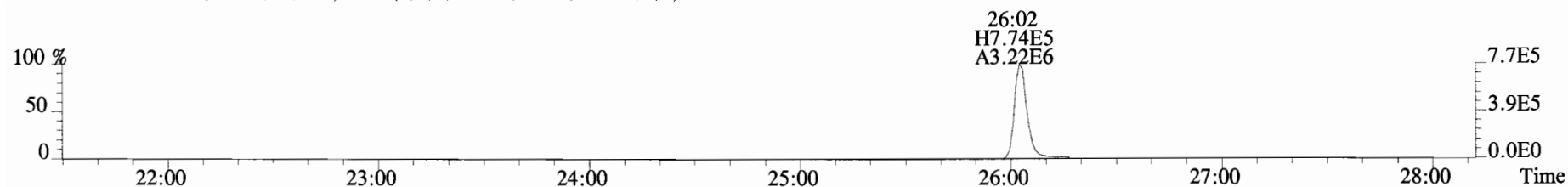
File:190626D2 #1-513 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD DB5
319.8965 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



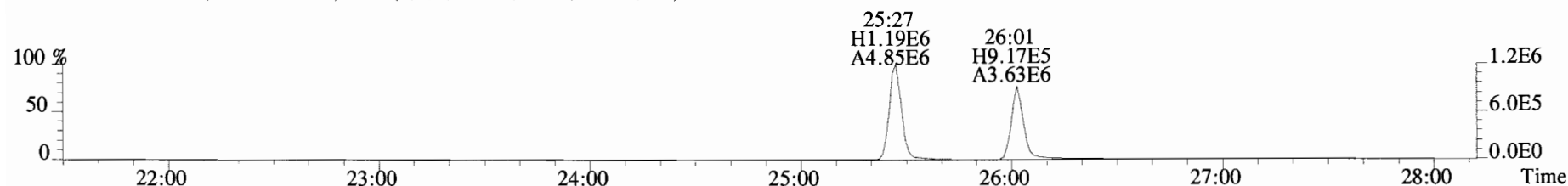
321.8936 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



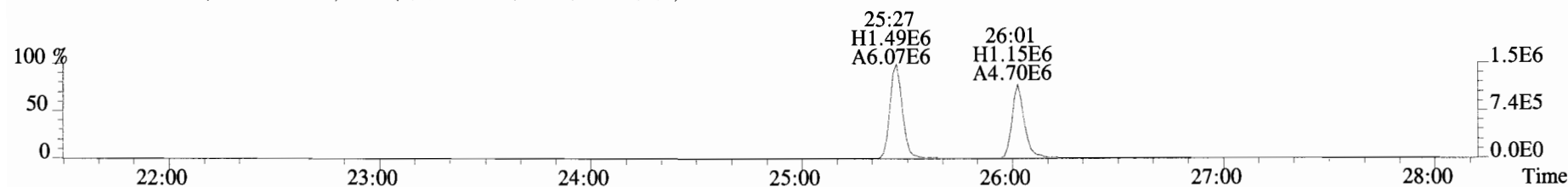
327.8847 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



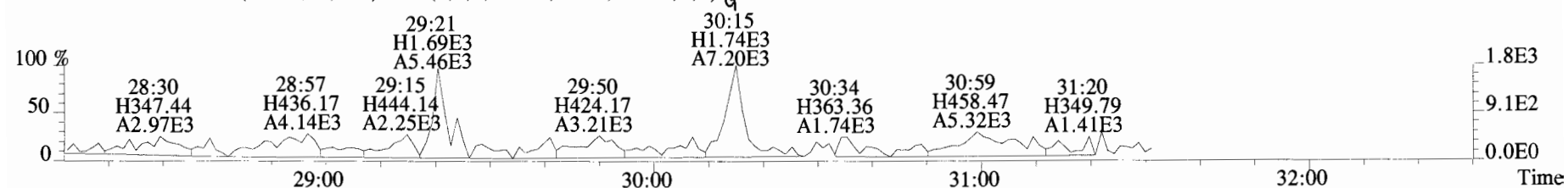
331.9368 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



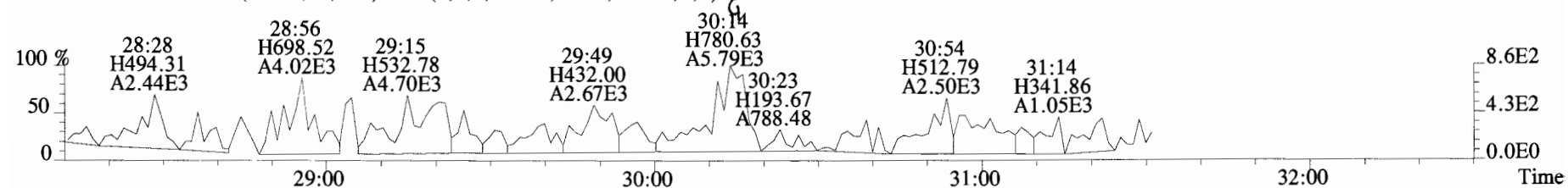
333.9339 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



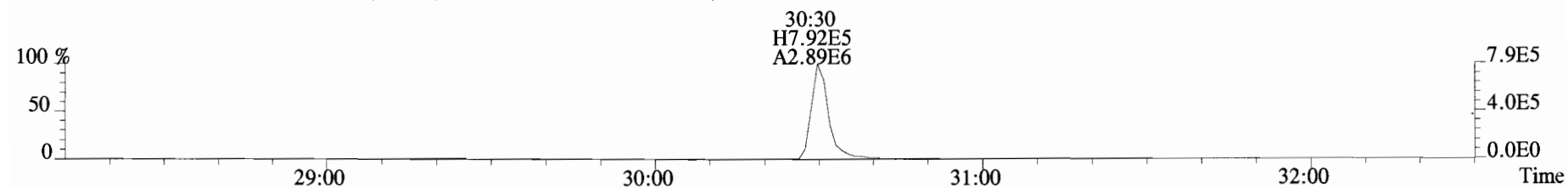
File:190626D2 #1-185 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5
 353.8576 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



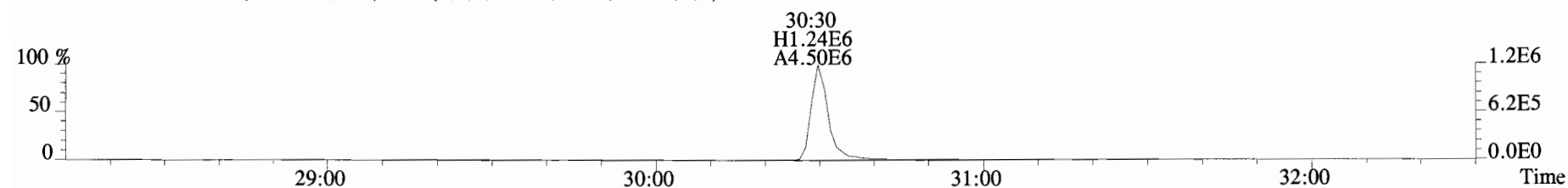
355.8546 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



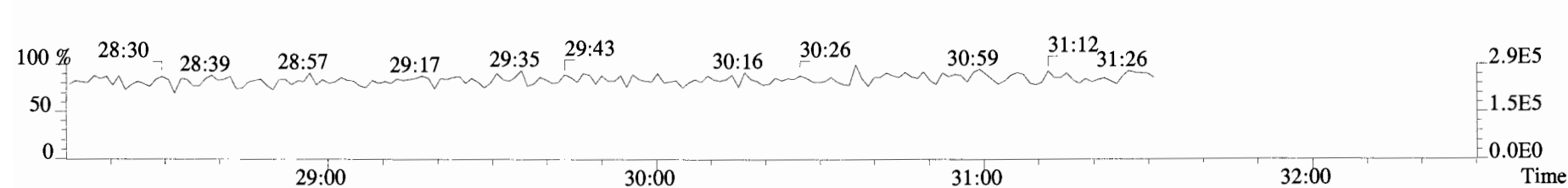
365.8978 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



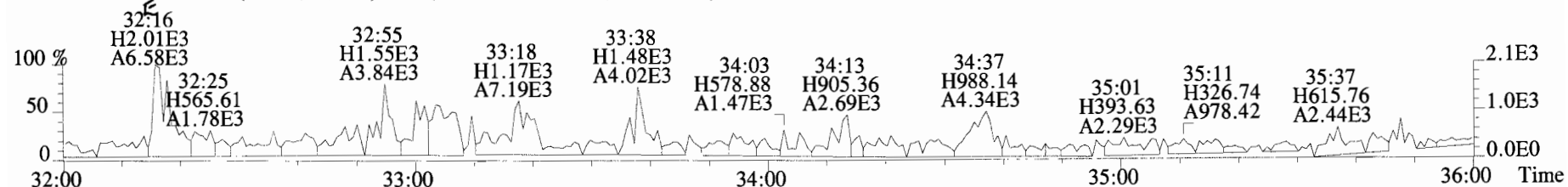
367.8949 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



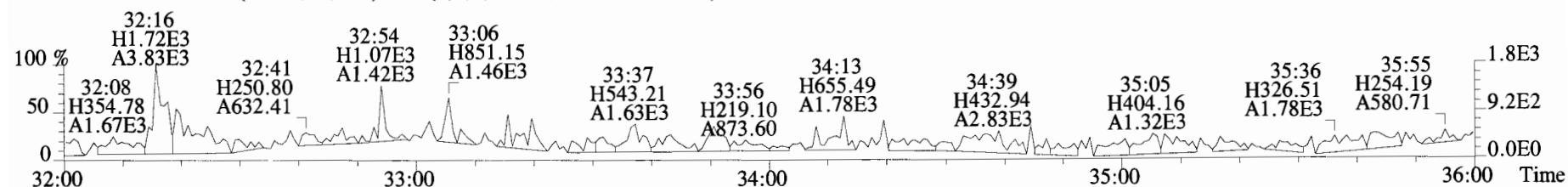
366.9792 S:15 F:2



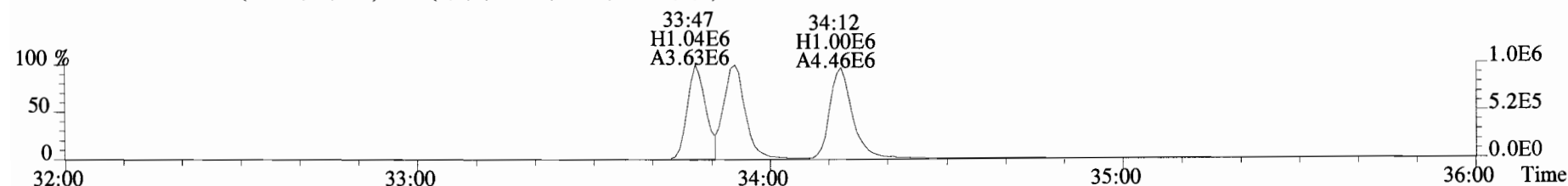
File:190626D2 #1-399 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5
389.8156 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



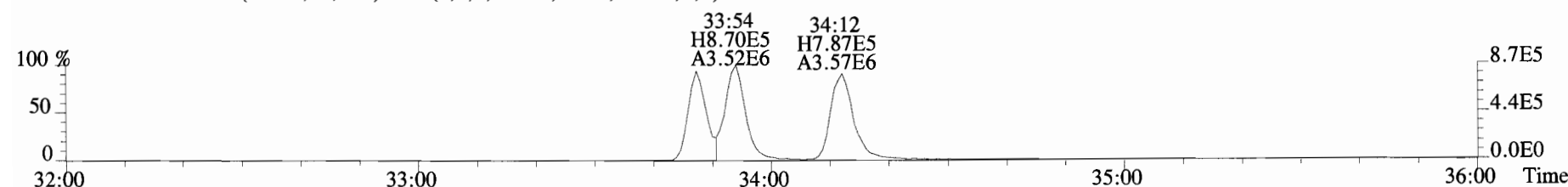
391.8127 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



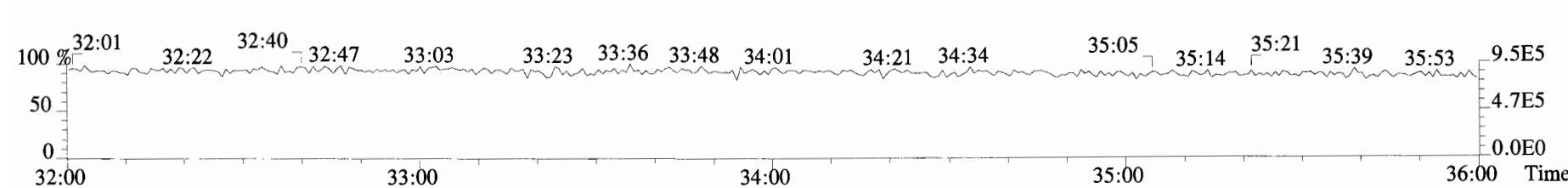
401.8559 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



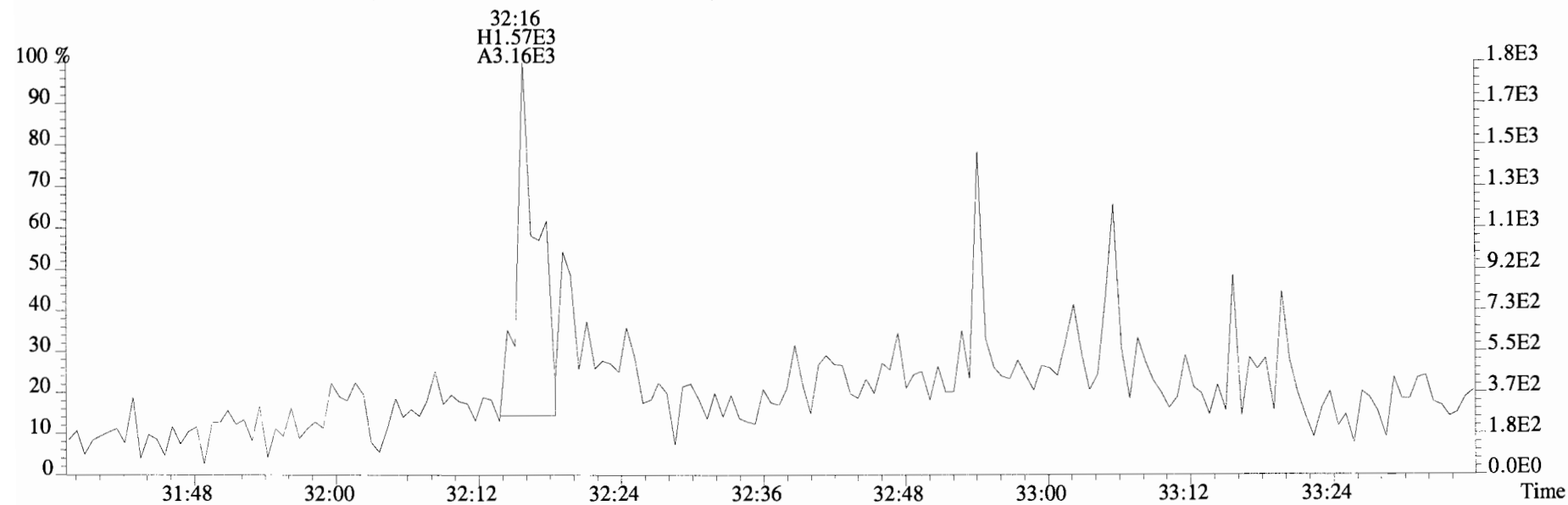
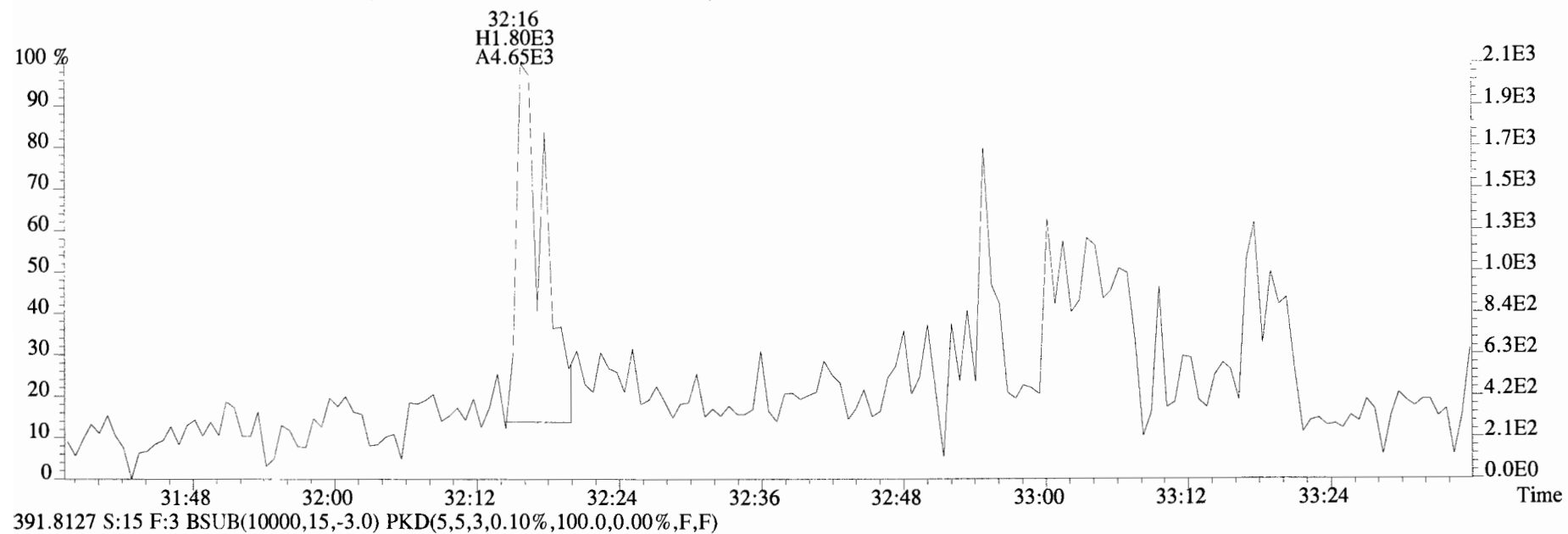
403.8530 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



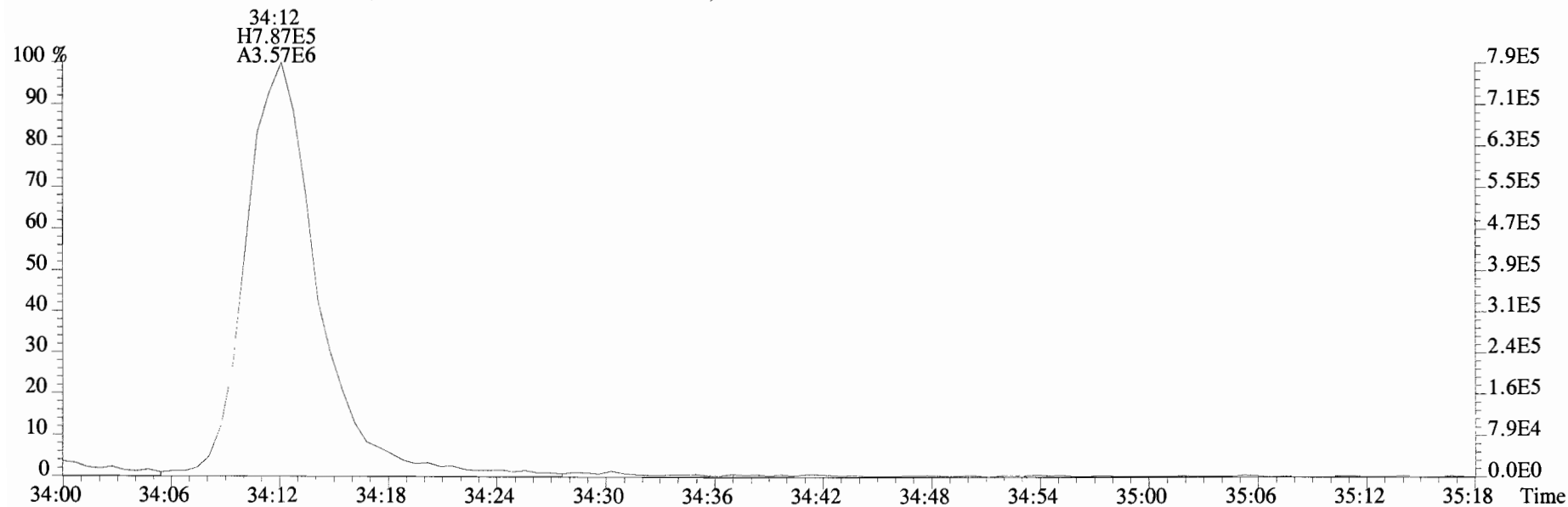
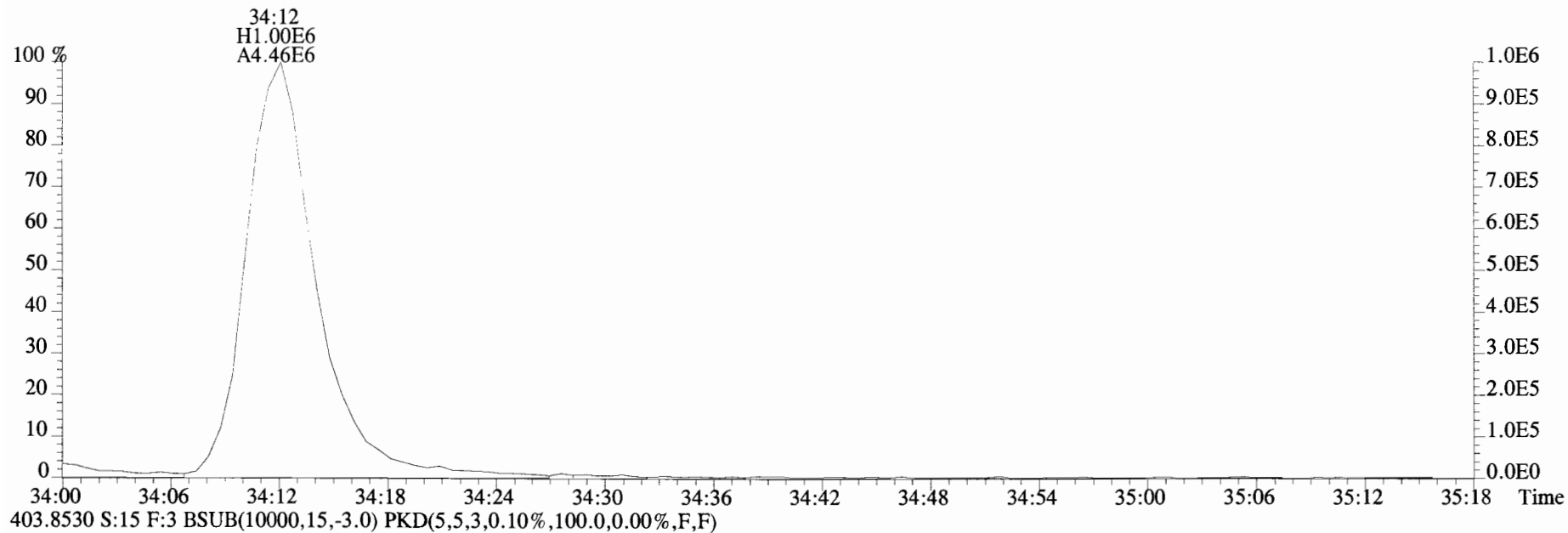
392.9760 S:15 F:3



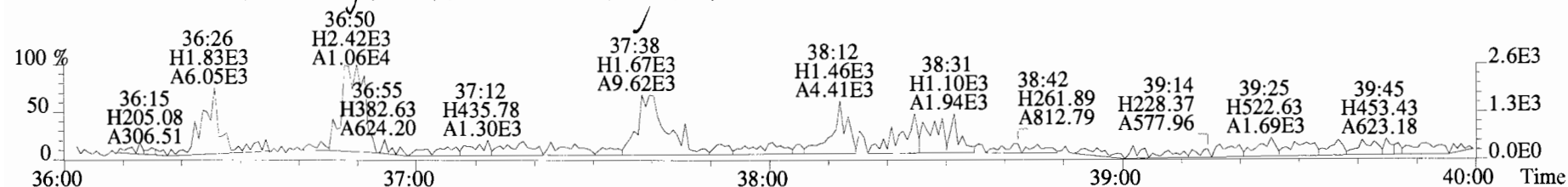
File:190626D2 #1-399 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD DB5
389.8156 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



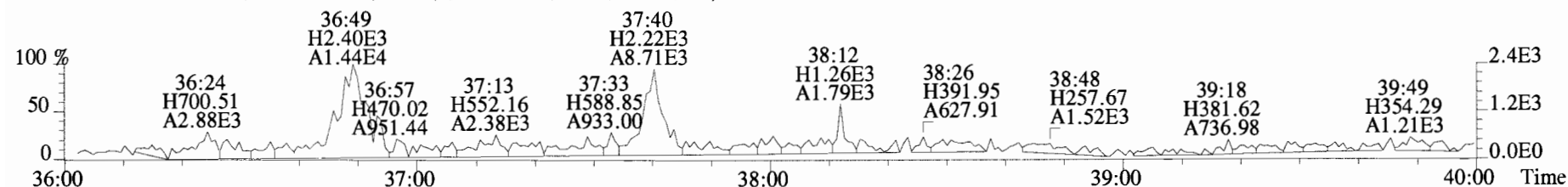
File:190626D2 #1-399 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5
401.8559 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



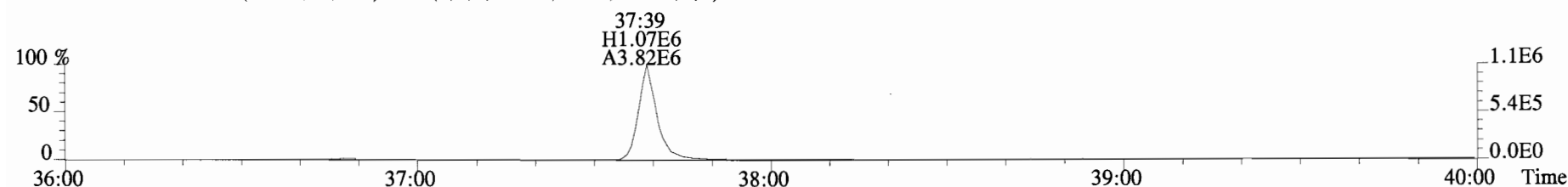
File:190626D2 #1-355 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5
423.7767 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



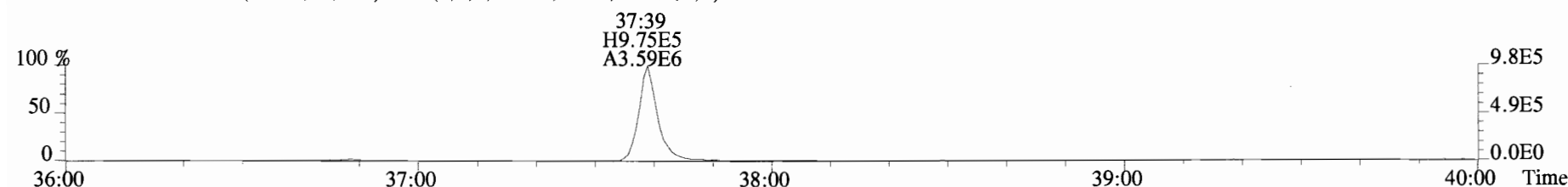
425.7737 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



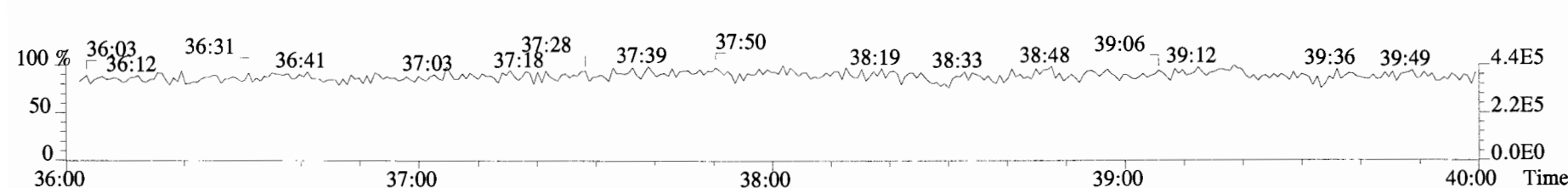
435.8169 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



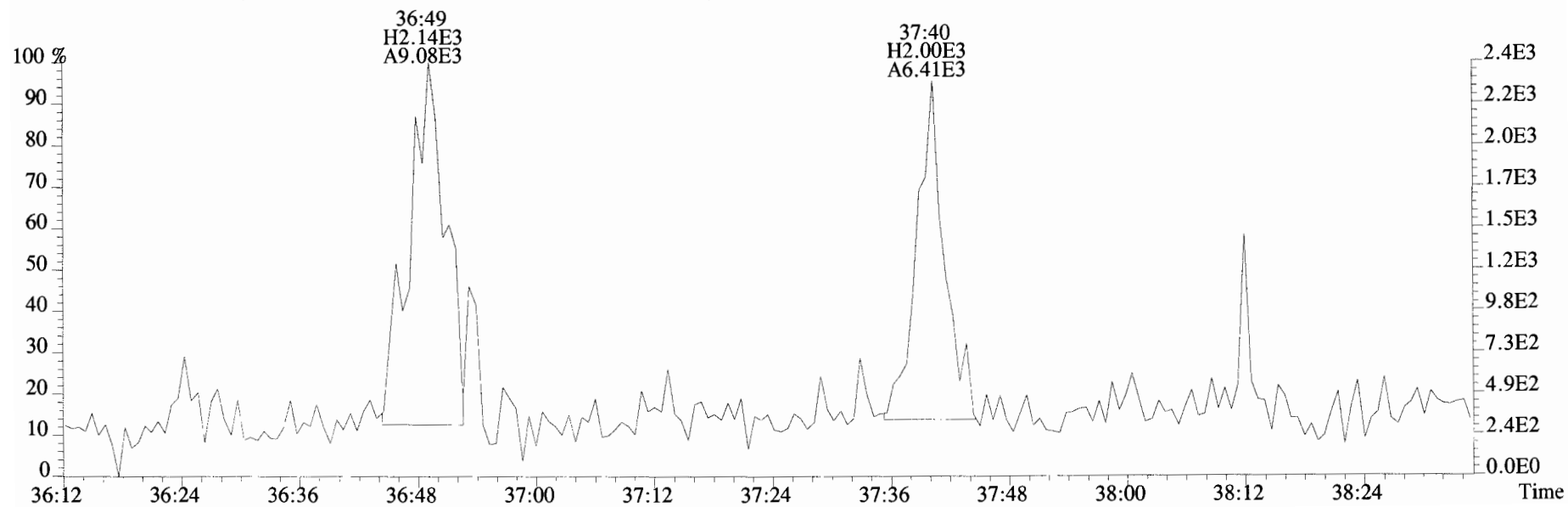
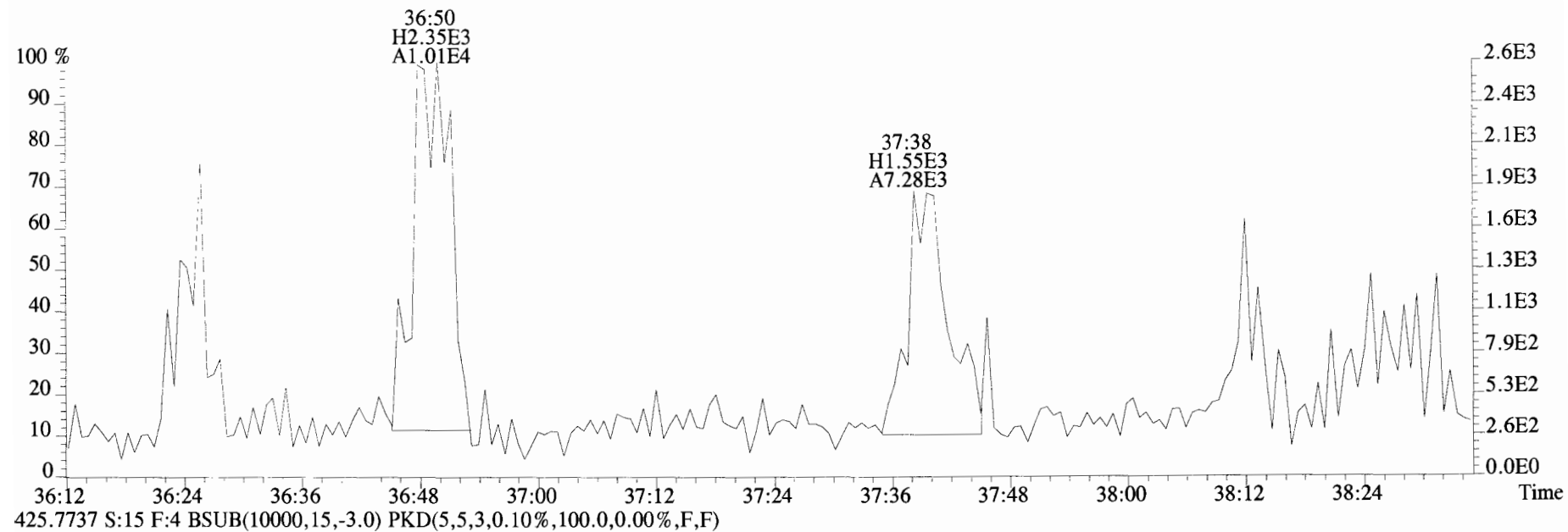
437.8140 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



454.9728 S:15 F:4



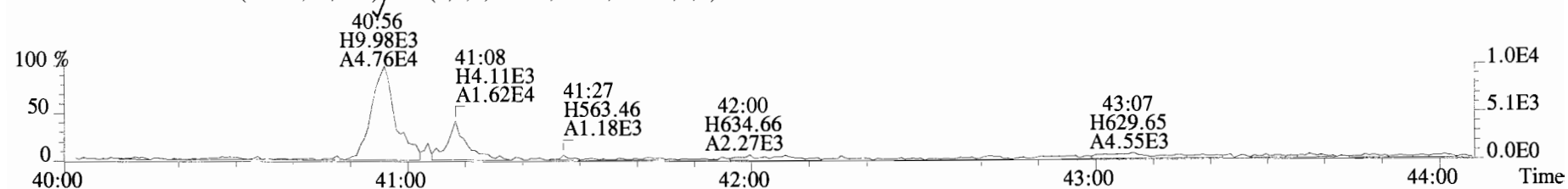
File:190626D2 #1-355 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD DB5
423.7767 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



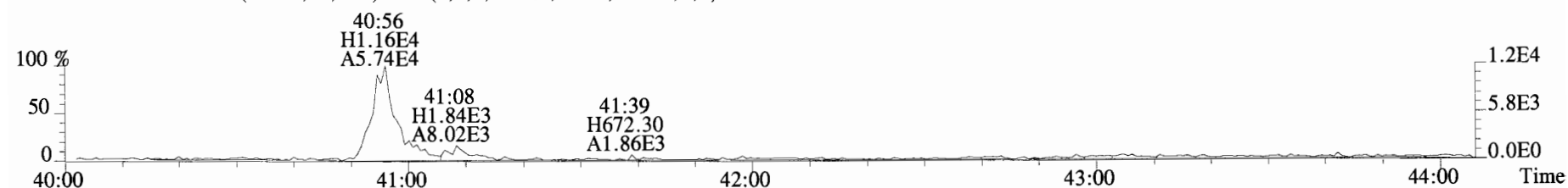
File:190626D2 #1-432 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE

Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5

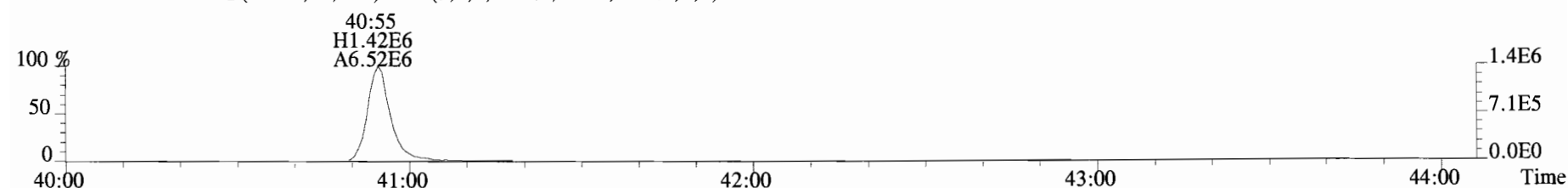
457.7377 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



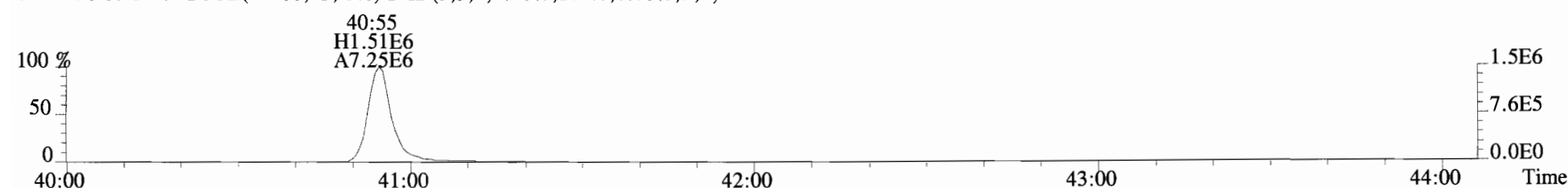
459.7348 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



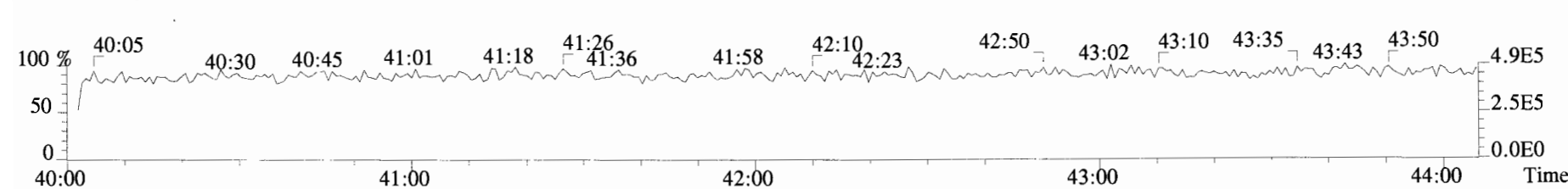
469.7780 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



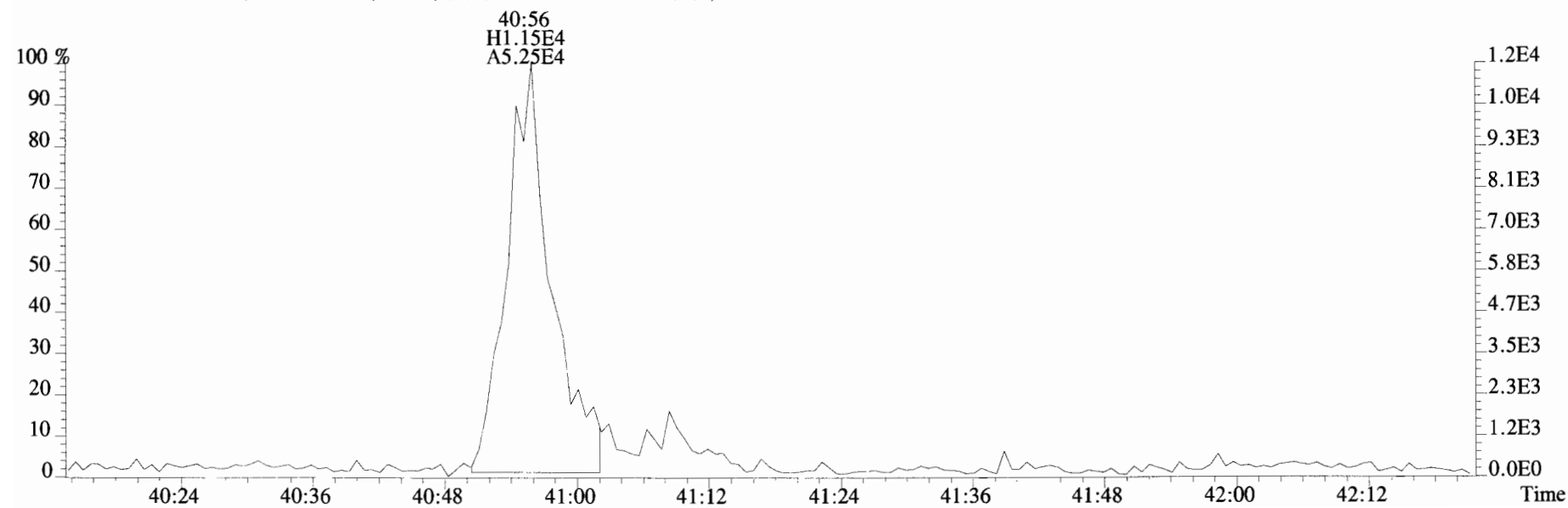
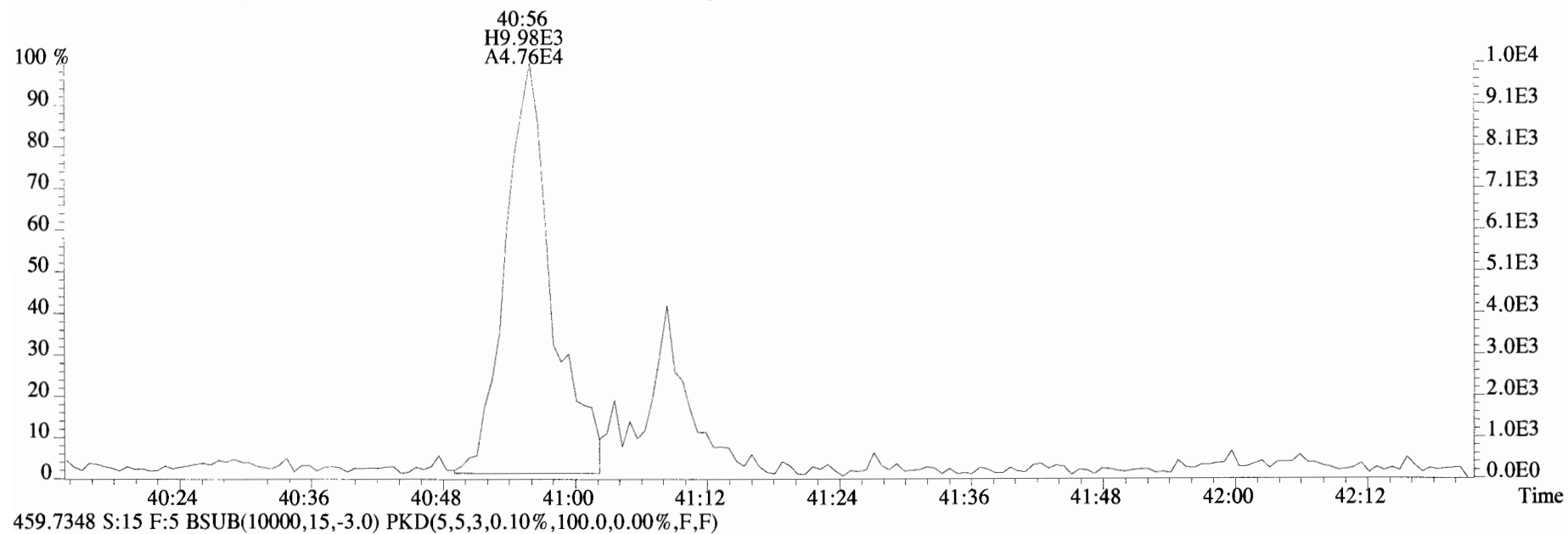
471.7750 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



454.9728 S:15 F:5



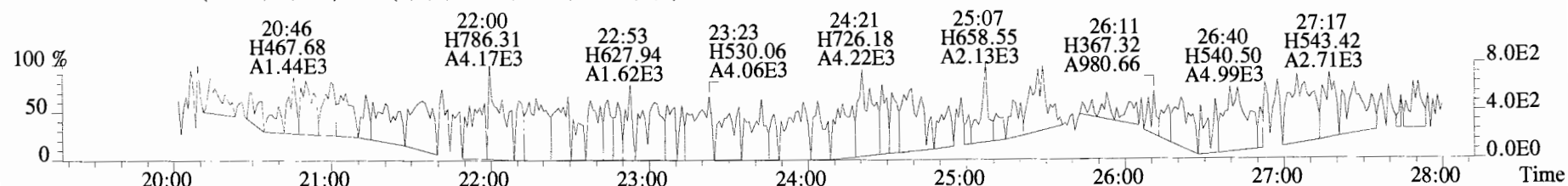
File:190626D2 #1-432 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5
457.7377 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



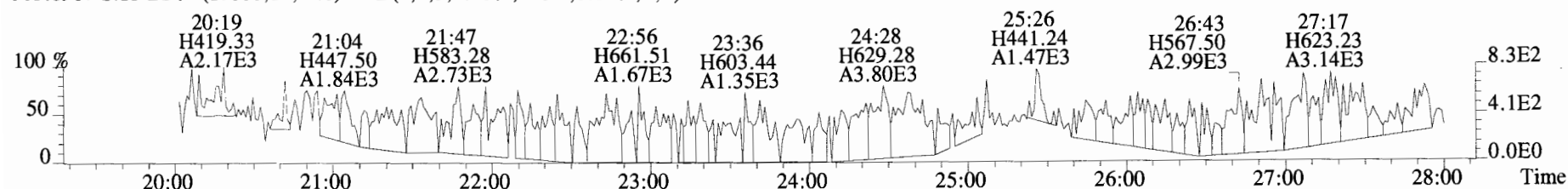
File:190626D2 #1-513 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE

Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5

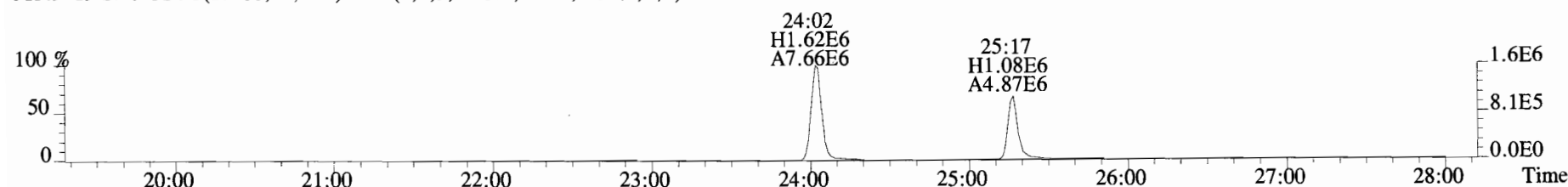
303.9016 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



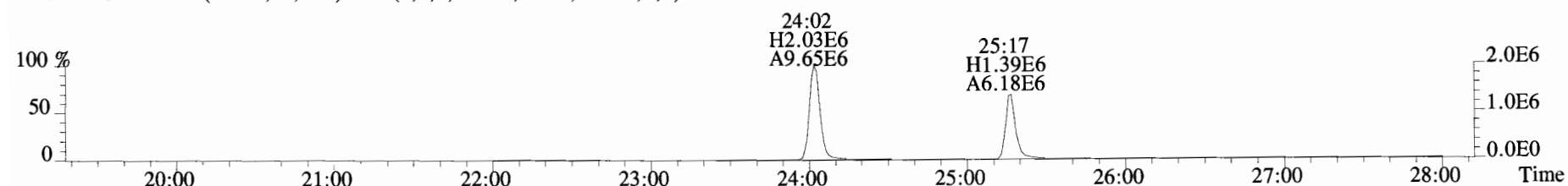
305.8987 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



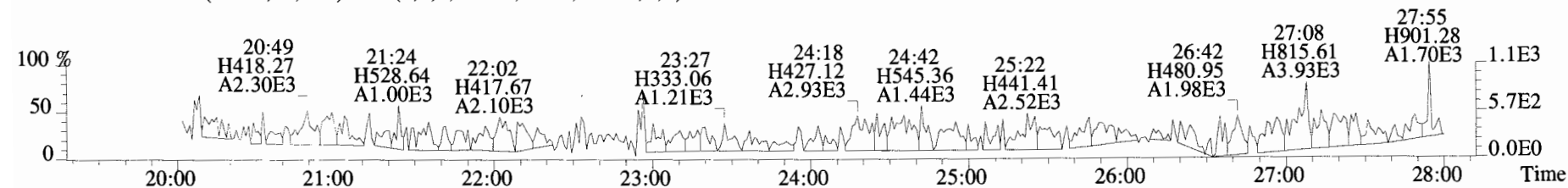
315.9419 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



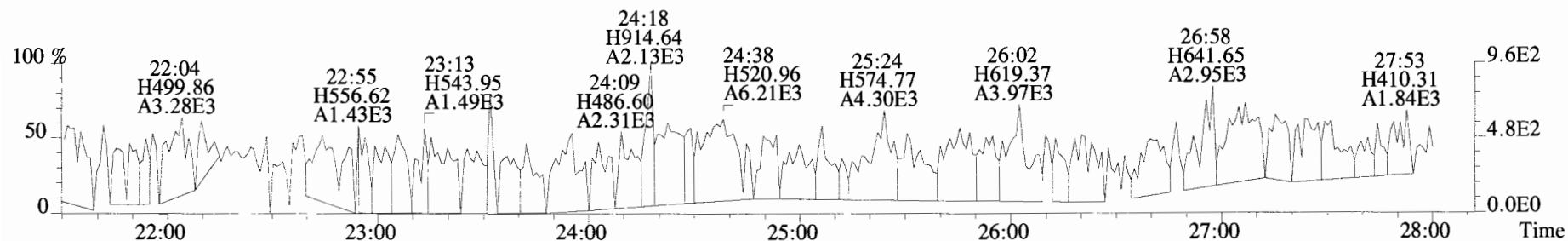
317.9389 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



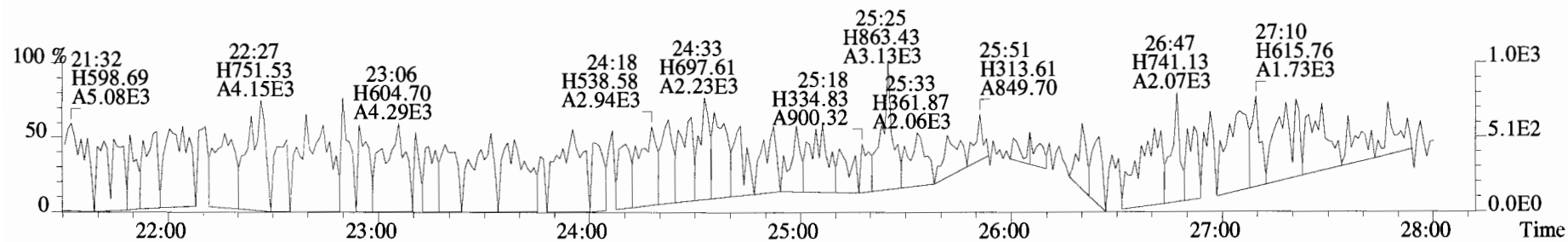
375.8364 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



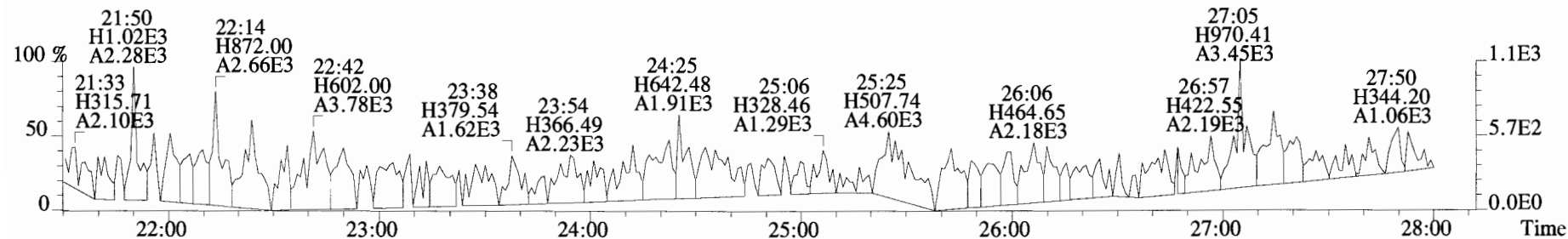
File:190626D2 #1-513 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD DB5
 339.8597 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



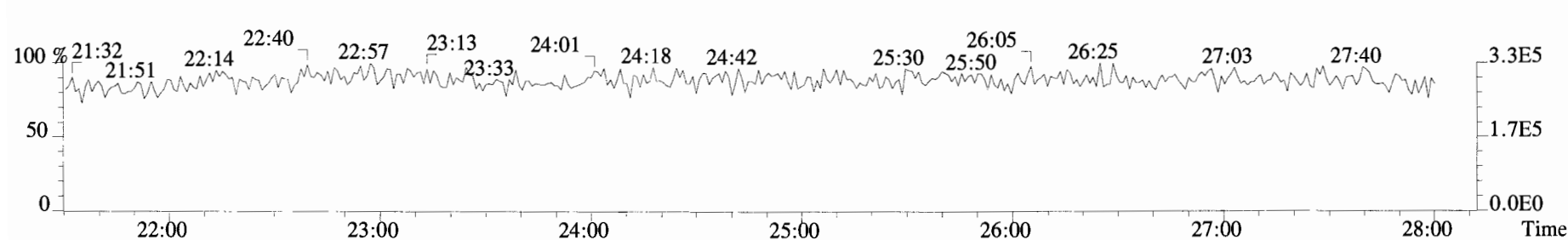
341.8568 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



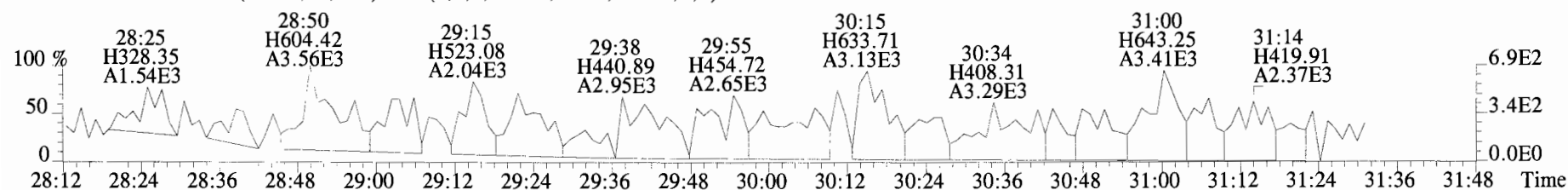
409.7974 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



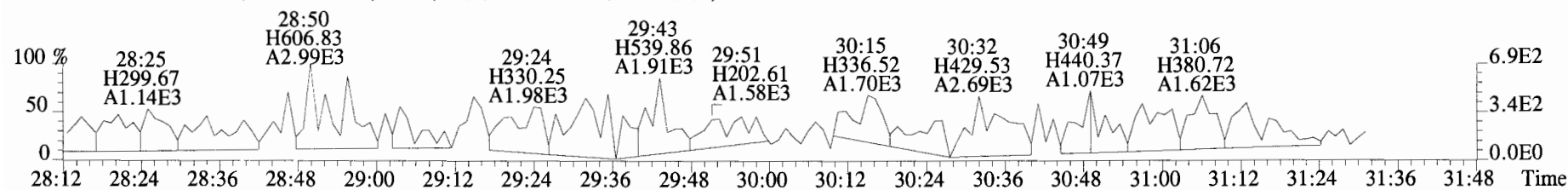
316.9824 S:15



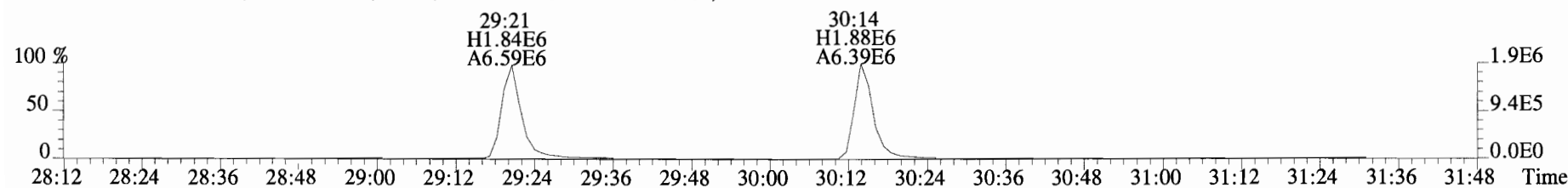
File:190626D2 #1-185 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD DB5
339.8597 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



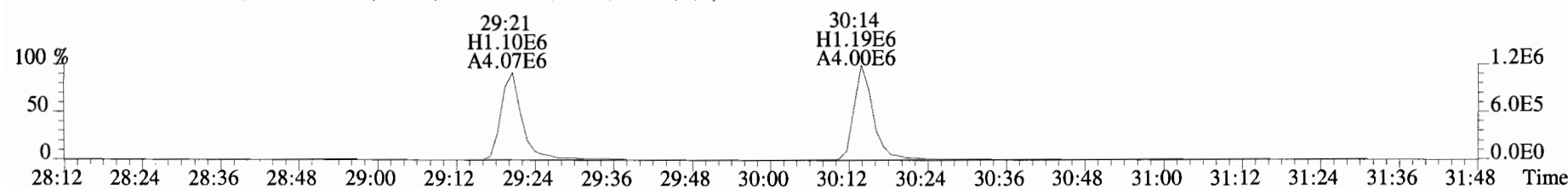
341.8568 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



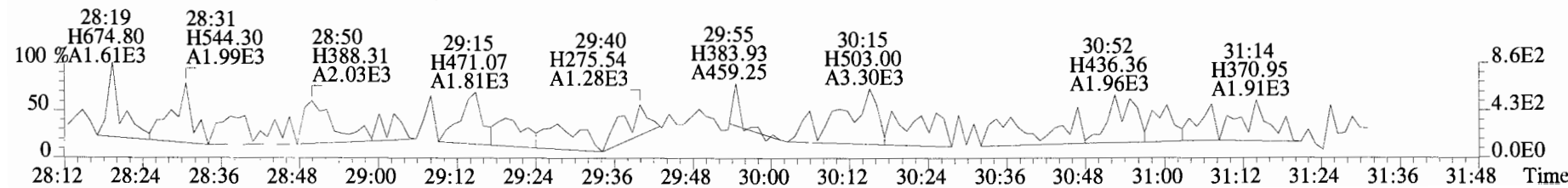
351.9000 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



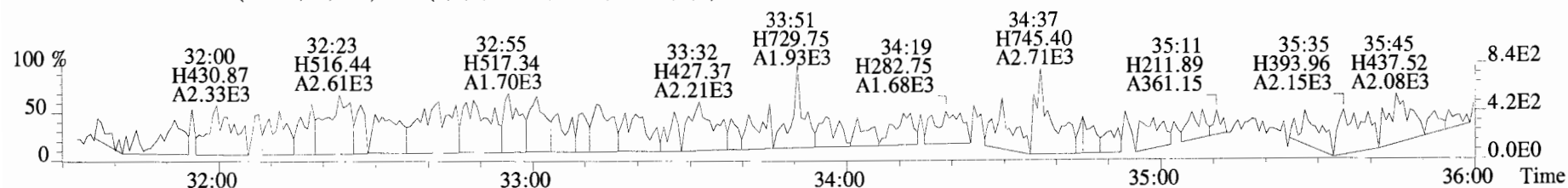
353.8970 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



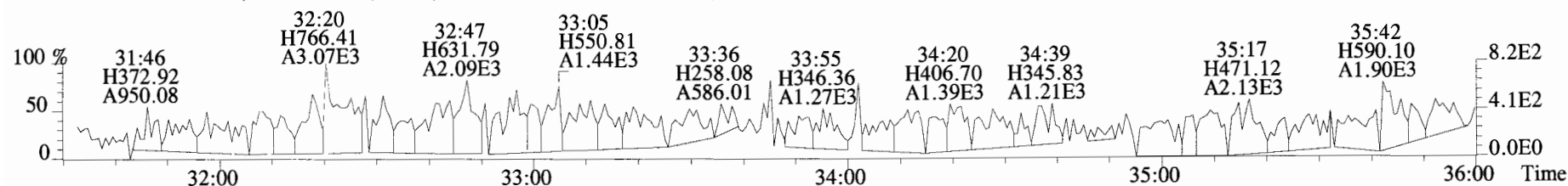
409.7974 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



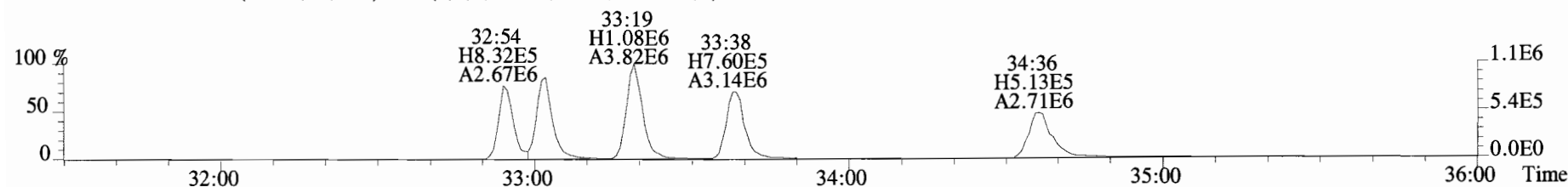
File:190626D2 #1-399 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5
373.8207 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



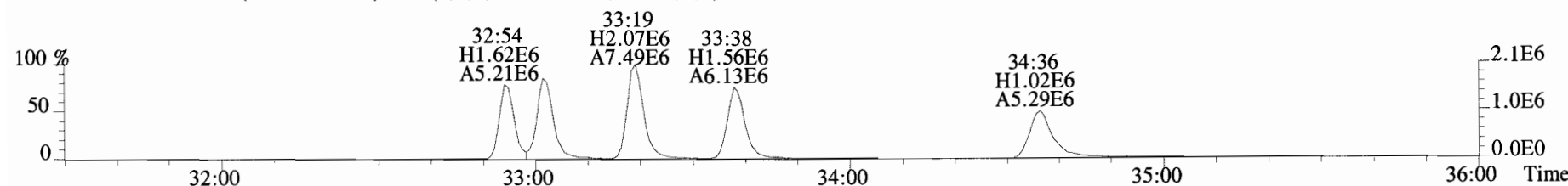
375.8178 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



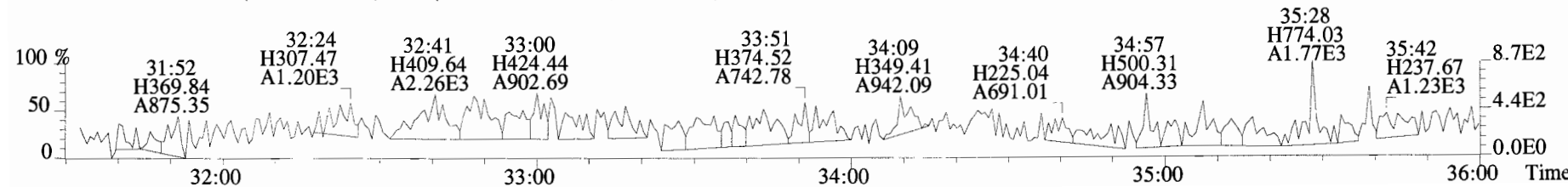
383.8639 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



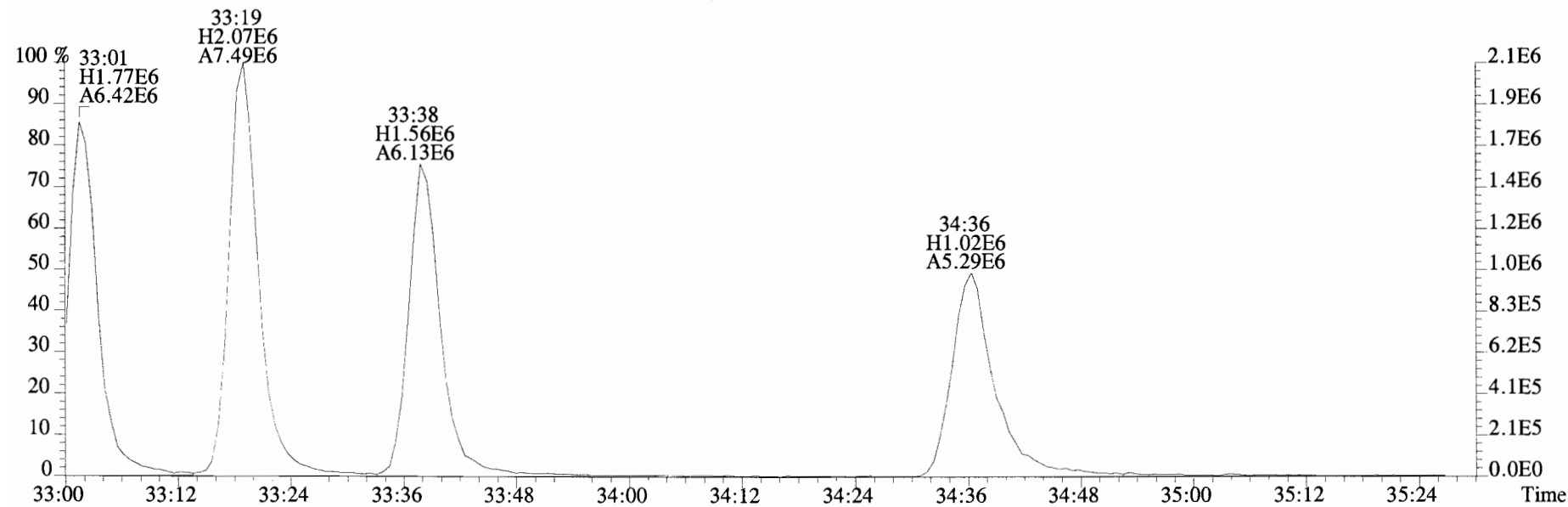
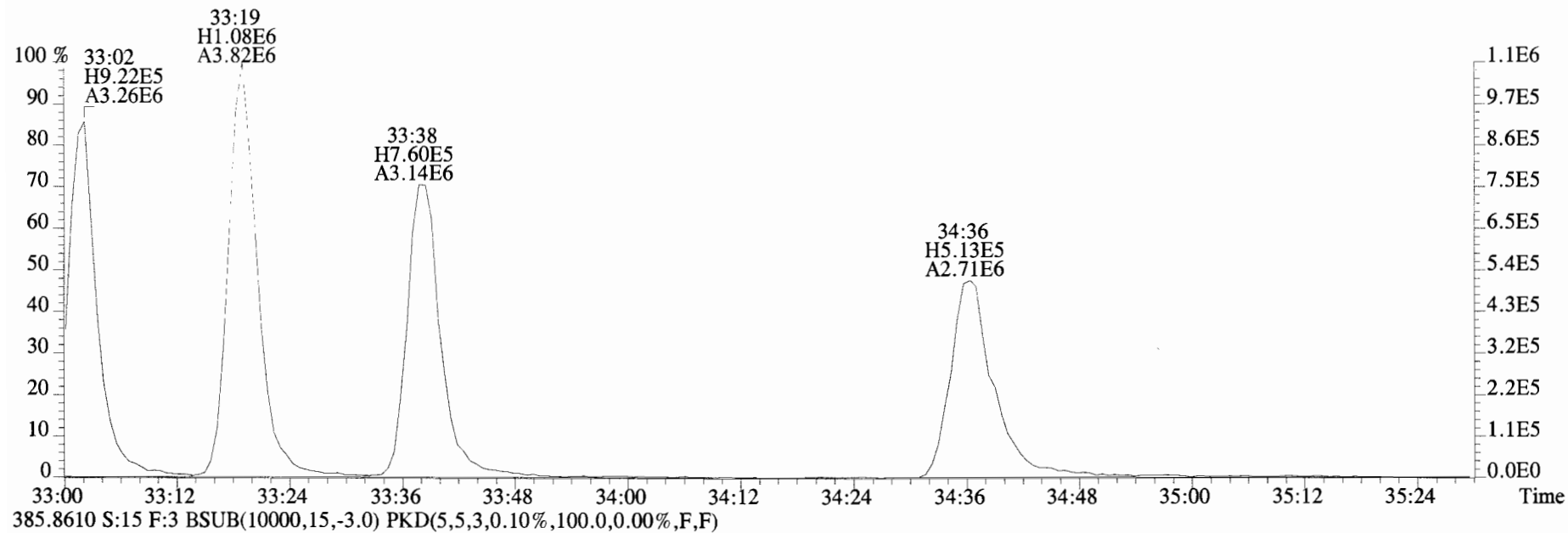
385.8610 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



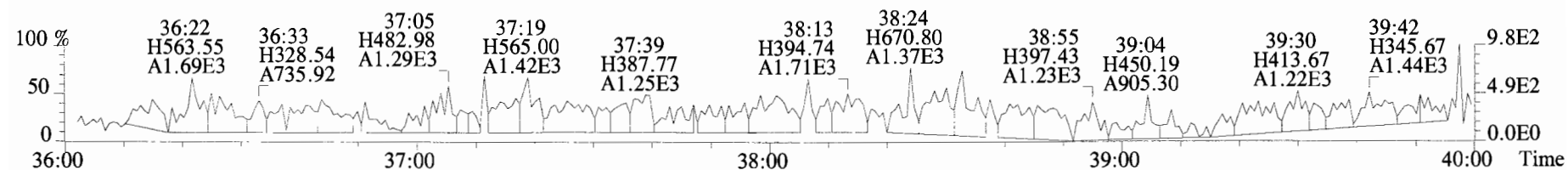
445.7555 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



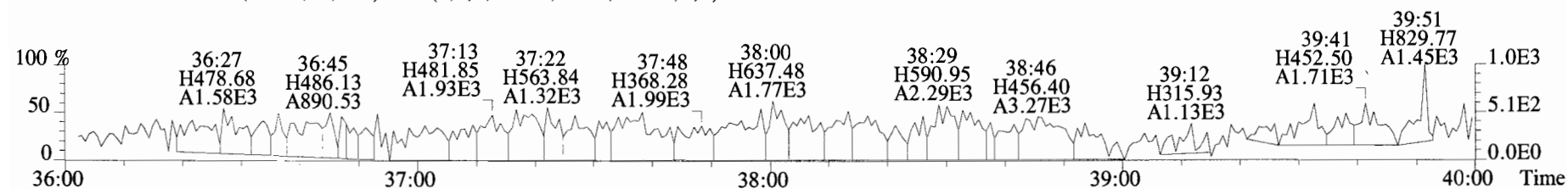
File:190626D2 #1-399 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD DB5
383.8639 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



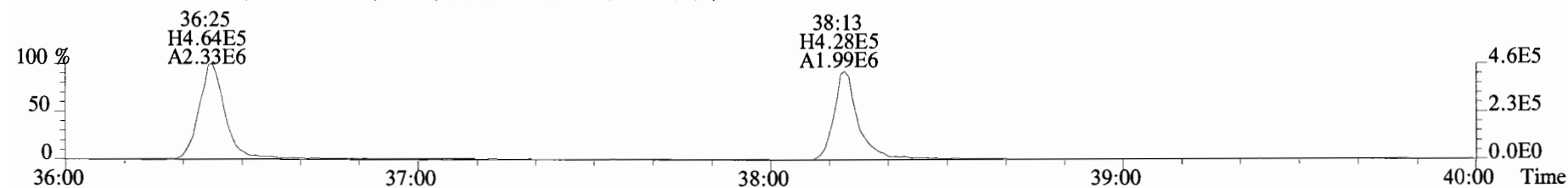
File:190626D2 #1-355 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5
407.7818 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



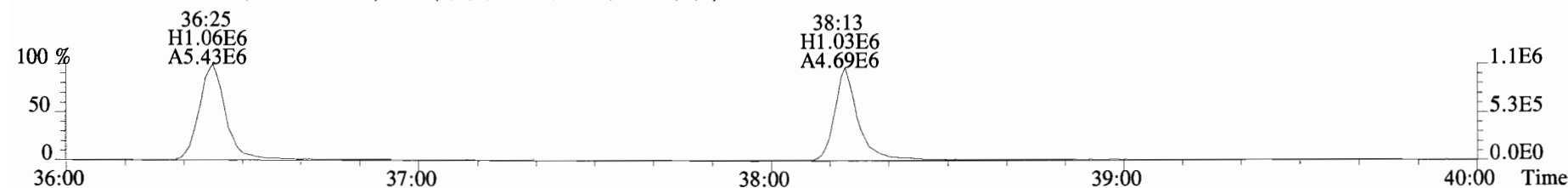
409.7788 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



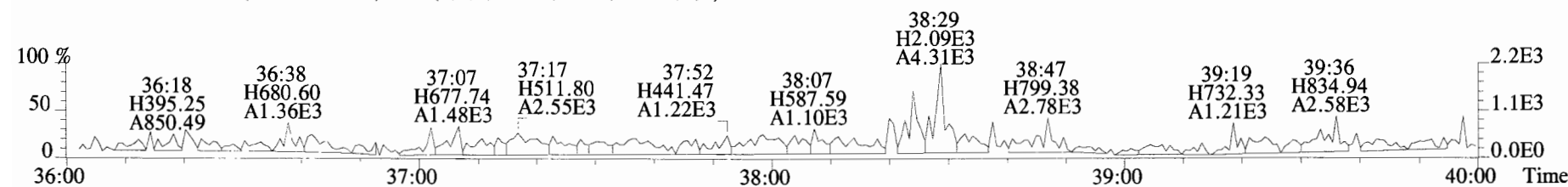
417.8253 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



419.8220 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



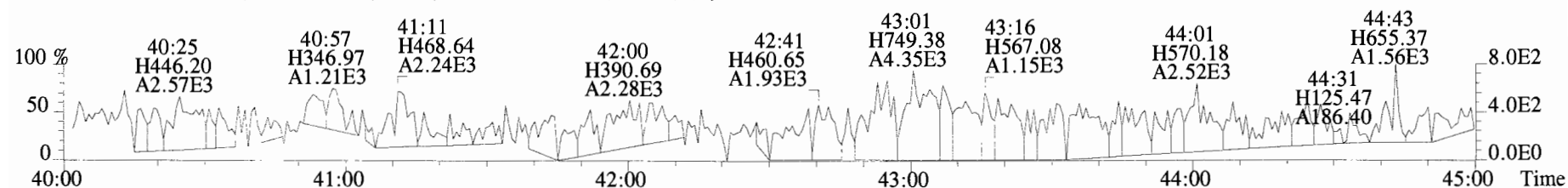
479.7165 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



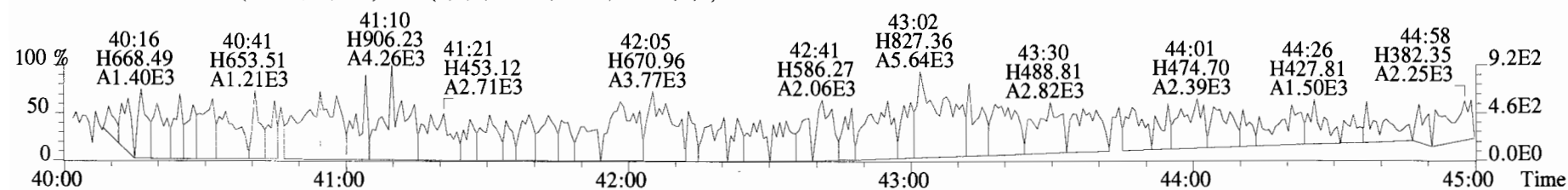
File:190626D2 #1-432 Acq:27-JUN-2019 15:48:43 GC EI+ Voltage SIR Autospec-UltimaE

Sample#15 Text:1901246-05 FD-201905211556 6.92 Exp:OCDD_DB5

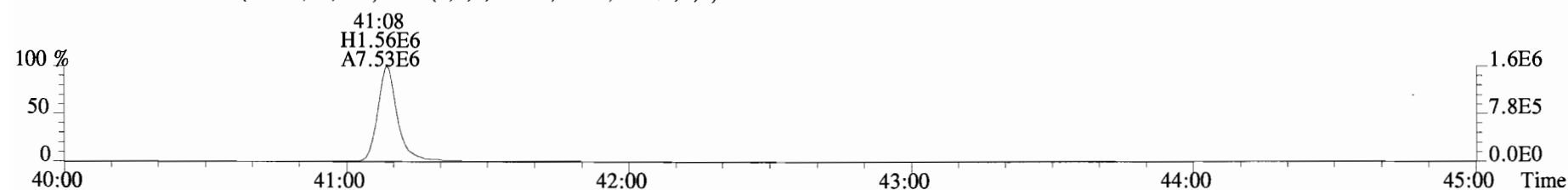
441.7428 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



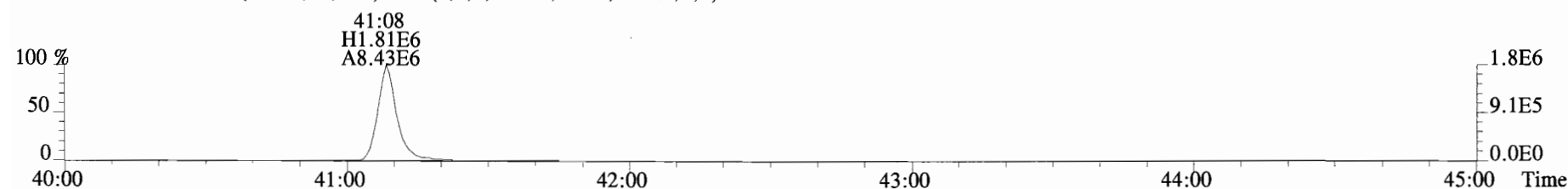
443.7398 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



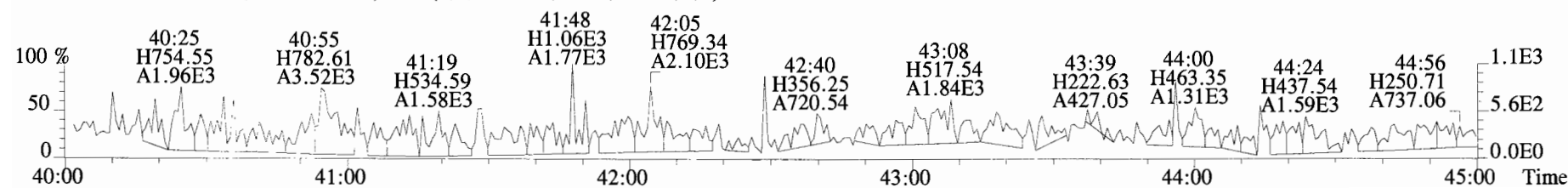
453.7831 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC13-190521 Filename: 190627D1 S:12 Acq:28-JUN-19 01:42:24
Lab ID: 1901246-06 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.021

ConCal: ST190627D1-1
EndCAL: NA

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		Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
		2,3,7,8-TCDD	*	* n	0.90	NotF ₇	*		265	2.5	0.215	Total Tetra-Dioxins	*	0.327		*	*
		1,2,3,7,8-PeCDD	4.33e+03	0.44 n	0.87	30:31	0.24026		*	2.5	*	Total Penta-Dioxins	0.747	1.28		*	*
		1,2,3,4,7,8-HxCDD	1.03e+04	1.09 y	1.05	33:50	0.50746		*	2.5	*	Total Hexa-Dioxins	15.8	16.3		*	*
		1,2,3,6,7,8-HxCDD	5.13e+04	1.31 y	0.93	33:56	2.3104		*	2.5	*	Total Hepta-Dioxins	112	112		*	*
		1,2,3,7,8,9-HxCDD	1.81e+04	1.08 y	0.96	34:14	0.79719		*	2.5	*	Total Tetra-Furans	1.12	1.91		*	*
		1,2,3,4,6,7,8-HpCDD	9.83e+05	1.00 y	0.99	37:41	45.542		*	2.5	*	Total Penta-Furans	7.0626	7.0626		*	*
		OCDD	7.13e+06	0.91 y	0.99	40:57	390.60		*	2.5	*	Total Hexa-Furans	13.8	14.7		*	*
									*	2.5	*	Total Hepta-Furans	21.9	21.9		*	*
		2,3,7,8-TCDF	1.97e+04	0.85 y	0.94	25:18	0.69257		*	2.5	*						
		1,2,3,7,8-PeCDF	2.72e+04	1.47 y	0.92	29:22	0.91908		*	2.5	*						
		2,3,4,7,8-PeCDF	1.21e+04	1.69 y	0.96	30:15	0.42780		*	2.5	*						
		1,2,3,4,7,8-HxCDF	7.85e+04	1.29 y	1.15	32:56	2.6431		*	2.5	*						
		1,2,3,6,7,8-HxCDF	2.96e+04	1.53 n	1.04	33:04	0.92443		*	2.5	*						
		2,3,4,6,7,8-HxCDF	1.65e+04	1.41 y	1.10	33:40	0.52975		*	2.5	*						
		1,2,3,7,8,9-HxCDF	1.01e+04	1.38 y	1.03	34:39	0.36606		*	2.5	*						
		1,2,3,4,6,7,8-HpCDF	1.66e+05	1.06 y	1.06	36:27	6.1592		*	2.5	*						
		1,2,3,4,7,8,9-HpCDF	2.78e+04	1.17 y	1.23	38:14	1.0922		*	2.5	*						
		OCDF	2.91e+05	0.89 y	0.94	41:11	13.475		*	2.5	*						
												Rec	Qual				
IS	13C-2,3,7,8-TCDD	9.08e+06	0.76 y	1.11	26:02	298.40						74.9					
IS	13C-1,2,3,7,8-PeCDD	8.24e+06	0.64 y	0.98	30:31	306.92						77.1					
IS	13C-1,2,3,4,7,8-HxCDD	7.71e+06	1.29 y	0.68	33:49	350.38						88.0					
IS	13C-1,2,3,6,7,8-HxCDD	9.51e+06	1.30 y	0.84	33:55	347.06						87.1					
IS	13C-1,2,3,7,8,9-HxCDD	9.40e+06	1.29 y	0.81	34:14	355.77						89.3					
IS	13C-1,2,3,4,6,7,8-HpCDD	8.69e+06	1.07 y	0.69	37:41	389.32						97.7					
IS	13C-OCDD	1.47e+07	0.92 y	0.62	40:57	724.58						91.0					
IS	13C-2,3,7,8-TCDF	1.20e+07	0.83 y	1.05	25:18	248.76						62.5					
IS	13C-1,2,3,7,8-PeCDF	1.28e+07	1.55 y	0.95	29:21	290.83						73.0					
IS	13C-2,3,4,7,8-PeCDF	1.18e+07	1.61 y	0.94	30:15	273.21						68.6					
IS	13C-1,2,3,4,7,8-HxCDF	1.03e+07	0.51 y	0.86	32:56	367.61						92.3					
IS	13C-1,2,3,6,7,8-HxCDF	1.23e+07	0.52 y	1.02	33:03	369.48						92.8					
IS	13C-2,3,4,6,7,8-HxCDF	1.13e+07	0.52 y	0.95	33:40	365.89						91.9					
IS	13C-1,2,3,7,8,9-HxCDF	1.07e+07	0.51 y	0.87	34:38	377.73						94.8					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.01e+07	0.44 y	0.81	36:27	383.67						96.3					
IS	13C-1,2,3,4,7,8,9-HpCDF	8.27e+06	0.45 y	0.63	38:14	402.01						101					
IS	13C-OCDF	1.83e+07	0.90 y	0.78	41:11	718.05						90.1					
C/Up	37Cl-2,3,7,8-TCDD	3.82e+06		1.22	26:04	114.24						71.7					
												Integrations		Reviewed			
												by		by			
RS/RT	13C-1,2,3,4-TCDD	1.10e+07	0.76 y	1.00	25:28	398.29						Analyst: <u>DB</u>				Analyst: <u>CT</u>	
RS	13C-1,2,3,4-TCDF	1.83e+07	0.82 y	1.00	24:04	398.29											
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.30e+07	0.52 y	1.00	33:21	398.29											

Integrations
by DB
Analyst: CT
Date: 7/29/19
Reviewed
by CT
Analyst: CT
Date: 08/02/19

Totals class: TCDD EMPC

Entry #: 19

Run: 17

File: 190627D1

S: 12 I: 1 F: 1

Acquired: 28-JUN-19 01:42:24

Processed: 28-JUN-19 08:58:13

Total Concentration: 0.32717

Unnamed Concentration: 0.327

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
22:41	4.430e+03	3.795e+03	1.17 n	6.717e+03	0.32717

Totals class: PeCDD EMPC

Entry #: 21

Run: 17

File: 190627D1

S: 12 I: 1 F: 2

Acquired: 28-JUN-19 01:42:24

Processed: 28-JUN-19 08:58:13

Total Concentration: 1.2798

Unnamed Concentration: 1.040

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:28	4.754e+03	8.728e+03	0.54 y	1.348e+04	0.74730
29:32	2.963e+03	3.234e+03	0.92 n	5.272e+03	0.29222
30:31	1.675e+03	3.804e+03	0.44 n	4.334e+03	0.24026

1,2,3,7,8-PeCDD

Totals class: HxCDD EMPC

Entry #: 23

Run: 17

File: 190627D1

S: 12 I: 1 F: 3

Acquired: 28-JUN-19 01:42:24

Processed: 28-JUN-19 08:58:13

Total Concentration: 16.292

Unnamed Concentration: 12.677

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:17	6.715e+04	5.472e+04	1.23 y	1.219e+05	5.6048
32:50	7.688e+03	5.086e+03	1.51 n	1.139e+04	0.52399
33:07	8.003e+04	6.235e+04	1.28 y	1.424e+05	6.5482
33:50	5.385e+03	4.923e+03	1.09 y	1.031e+04	0.50746
33:56	2.905e+04	2.224e+04	1.31 y	5.130e+04	2.3104
34:14	9.399e+03	8.717e+03	1.08 y	1.812e+04	0.79719

Totals class: HpCDD EMPC

Entry #: 25

Run: 17

File: 190627D1

S: 12 I: 1 F: 4

Acquired: 28-JUN-19 01:42:24

Processed: 28-JUN-19 08:58:13

Total Concentration: 111.96

Unnamed Concentration: 66.417

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
36:50	7.301e+05	7.034e+05	1.04 y	1.433e+06	66.417	
37:41	4.914e+05	4.915e+05	1.00 y	9.830e+05	45.542	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC

Entry #: 27

Run: 17 File: 190627D1 S: 12 I: 1 F: 1

Acquired: 28-JUN-19 01:42:24 Processed: 28-JUN-19 08:58:13

Total Concentration: 1.9053

Unnamed Concentration: 1.213

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
21:48	5.579e+03	6.586e+03	0.85 y	1.216e+04	0.42696
22:42	5.942e+03	5.713e+03	1.04 n	1.011e+04	0.35493
24:31	5.340e+03	9.541e+03	0.56 n	1.227e+04	0.43081
25:18	9.079e+03	1.065e+04	0.85 y	1.973e+04	0.69257 2,3,7,8-TCDF

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 17 File: 190627D1 S: 12 I: 1 F: 1
Acquired: 28-JUN-19 01:42:24 Processed: 28-JUN-19 08:58:13

Total Concentration: 2.6391 Unnamed Concentration: 2.639

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:00	4.419e+04	3.216e+04	1.37 y	7.635e+04	2.6391

Totals class: PeCDF EMPC

Entry #: 31

Run: 17 File: 190627D1 S: 12 I: 1 F: 2
Acquired: 28-JUN-19 01:42:24 Processed: 28-JUN-19 08:58:13

Total Concentration: 4.4235

Unnamed Concentration: 3.077

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
28:27	3.131e+04	1.872e+04	1.67 y	5.002e+04	1.7290	
28:59	6.161e+03	4.349e+03	1.42 y	1.051e+04	0.36327	
29:22	1.616e+04	1.101e+04	1.47 y	2.717e+04	0.91908	1,2,3,7,8-PeCDF
29:37	1.105e+04	7.633e+03	1.45 y	1.869e+04	0.64589	
30:15	7.596e+03	4.496e+03	1.69 y	1.209e+04	0.42780	2,3,4,7,8-PeCDF
30:19	5.659e+03	4.133e+03	1.37 y	9.792e+03	0.33846	

Totals class: HxCDF EMPC

Entry #: 33

Run: 17

File: 190627D1

S: 12 I: 1 F: 3

Acquired: 28-JUN-19 01:42:24

Processed: 28-JUN-19 08:58:13

Total Concentration: 14.745

Unnamed Concentration: 10.282

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
31:45	2.222e+04	1.870e+04	1.19 y	4.092e+04	1.3576	
31:55	5.918e+04	4.439e+04	1.33 y	1.036e+05	3.4358	
32:28	9.251e+04	7.294e+04	1.27 y	1.654e+05	5.4885	
32:56	4.422e+04	3.429e+04	1.29 y	7.851e+04	2.6431	1,2,3,4,7,8-HxCDF
33:04	2.021e+04	1.323e+04	1.53 n	2.962e+04	0.92443	1,2,3,6,7,8-HxCDF
33:40	9.675e+03	6.869e+03	1.41 y	1.654e+04	0.52975	2,3,4,6,7,8-HxCDF
34:39	5.861e+03	4.239e+03	1.38 y	1.010e+04	0.36606	1,2,3,7,8,9-HxCDF

Totals class: HpCDF EMPC

Entry #: 35

Run: 17

File: 190627D1

S: 12 I: 1 F: 4

Acquired: 28-JUN-19 01:42:24

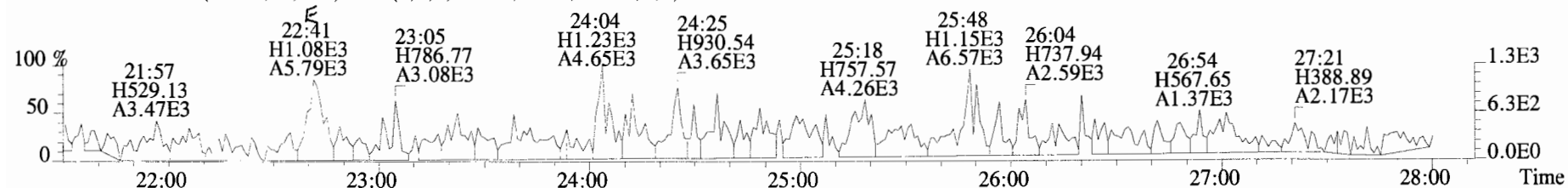
Processed: 28-JUN-19 08:58:13

Total Concentration: 21.914

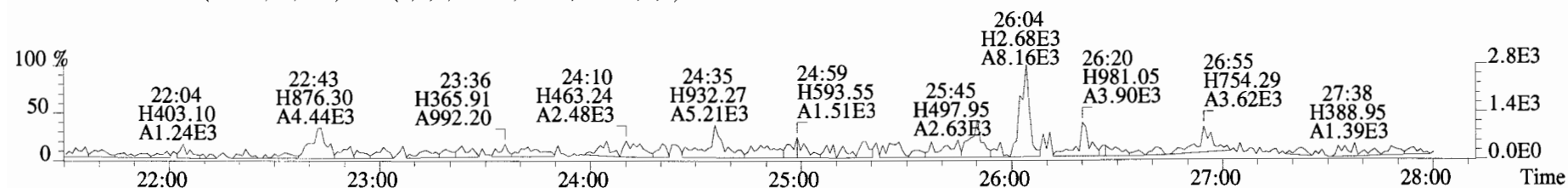
Unnamed Concentration: 14.663

RT	m1 Resp	m2 Resp	RA	Resp Concentration		Name
36:27	8.568e+04	8.057e+04	1.06 y	1.662e+05	6.1592	1,2,3,4,6,7,8-HpCDF
37:03	1.957e+05	1.881e+05	1.04 y	3.837e+05	14.663	
38:14	1.500e+04	1.280e+04	1.17 y	2.780e+04	1.0922	1,2,3,4,7,8,9-HpCDF

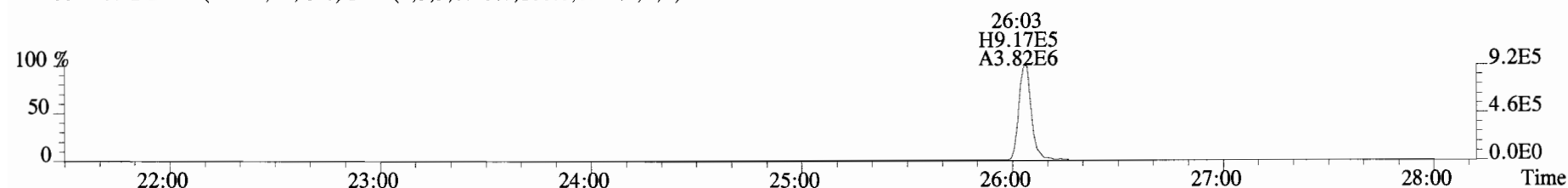
File:190627D1 #1-513 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text: Vista_Analytical_Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



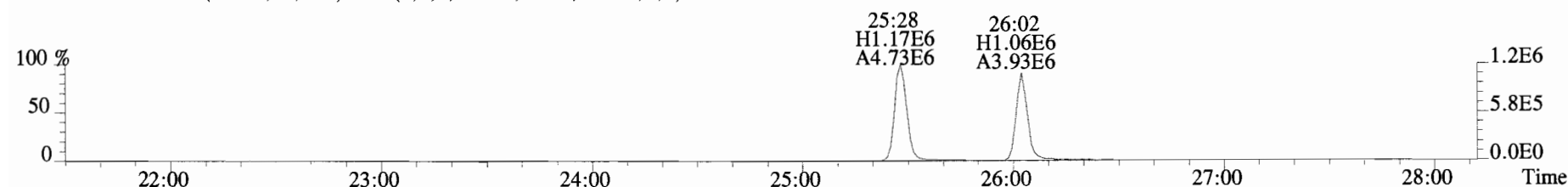
321.8936 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



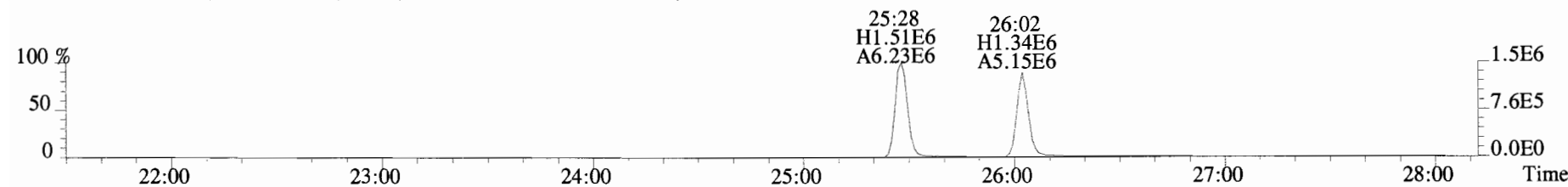
327.8847 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



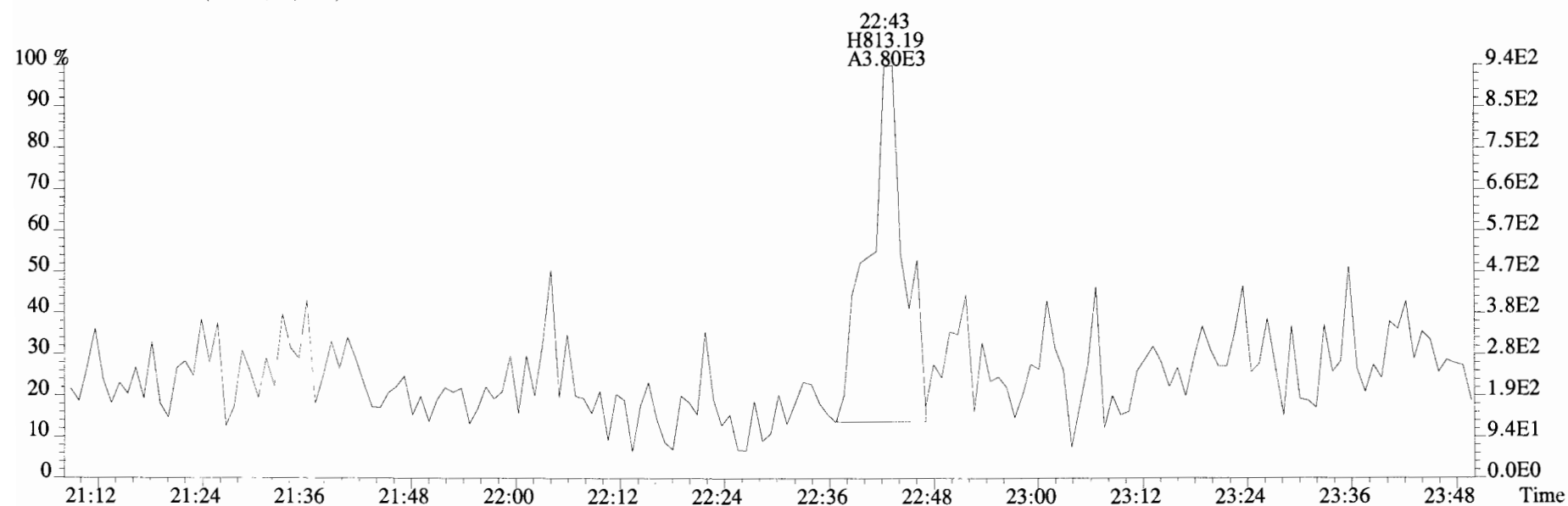
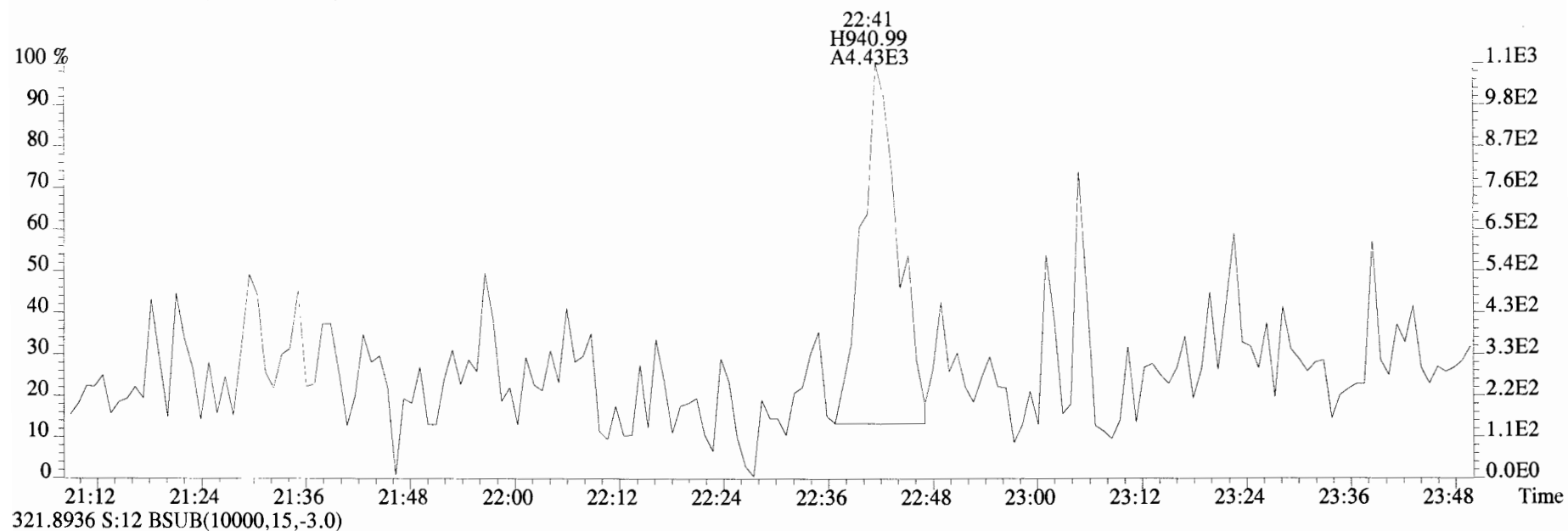
331.9368 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



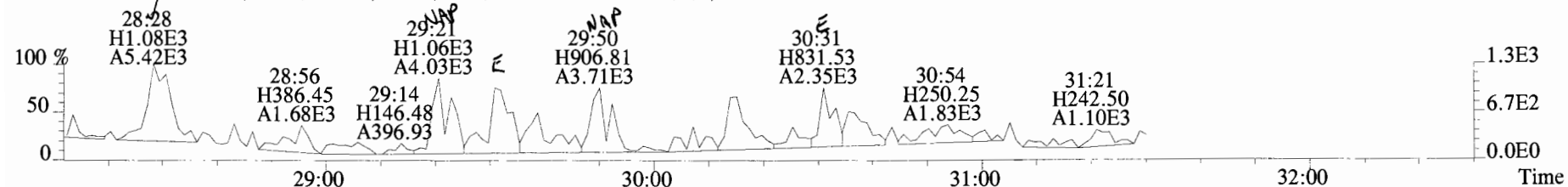
333.9339 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



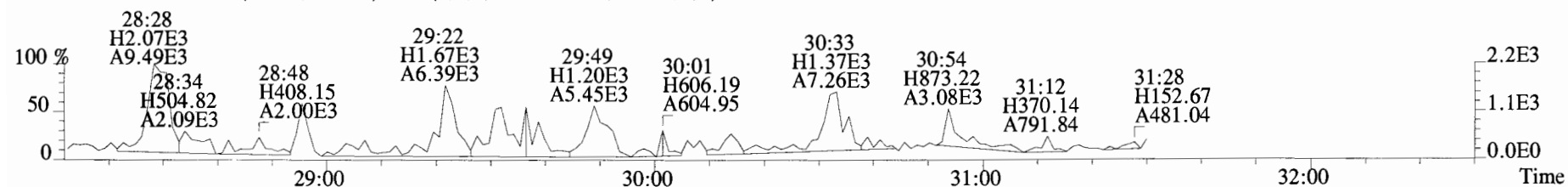
File:190627D1 #1-513 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical_Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
319.8965 S:12 BSUB(10000,15,-3.0)



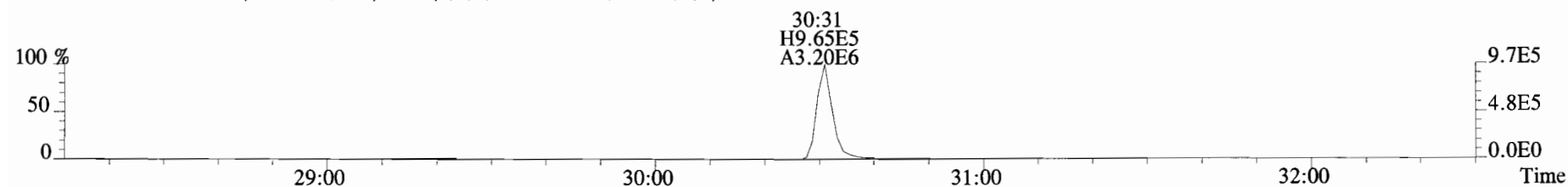
File:190627D1 #1-184 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



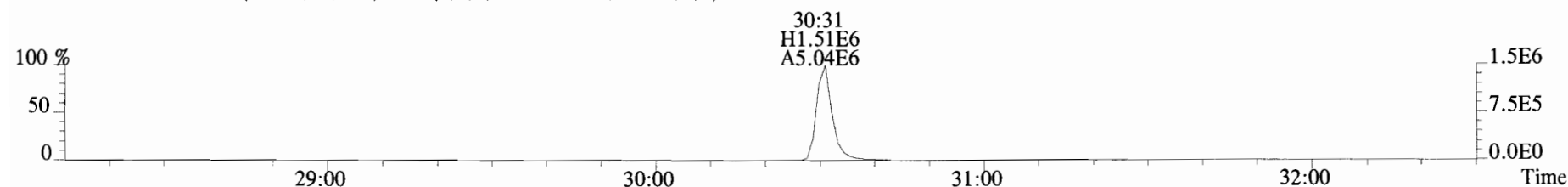
355.8546 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



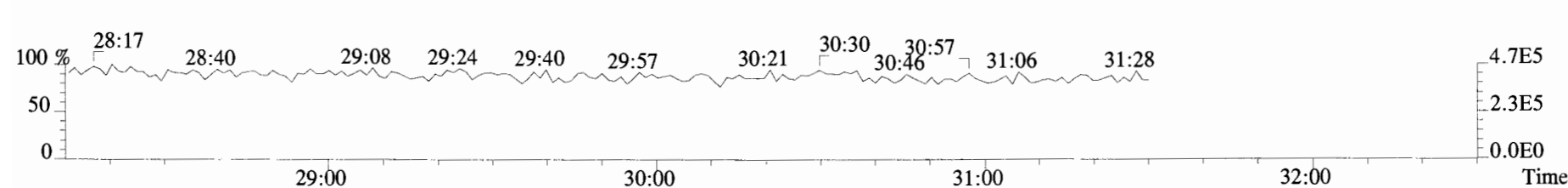
365.8978 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



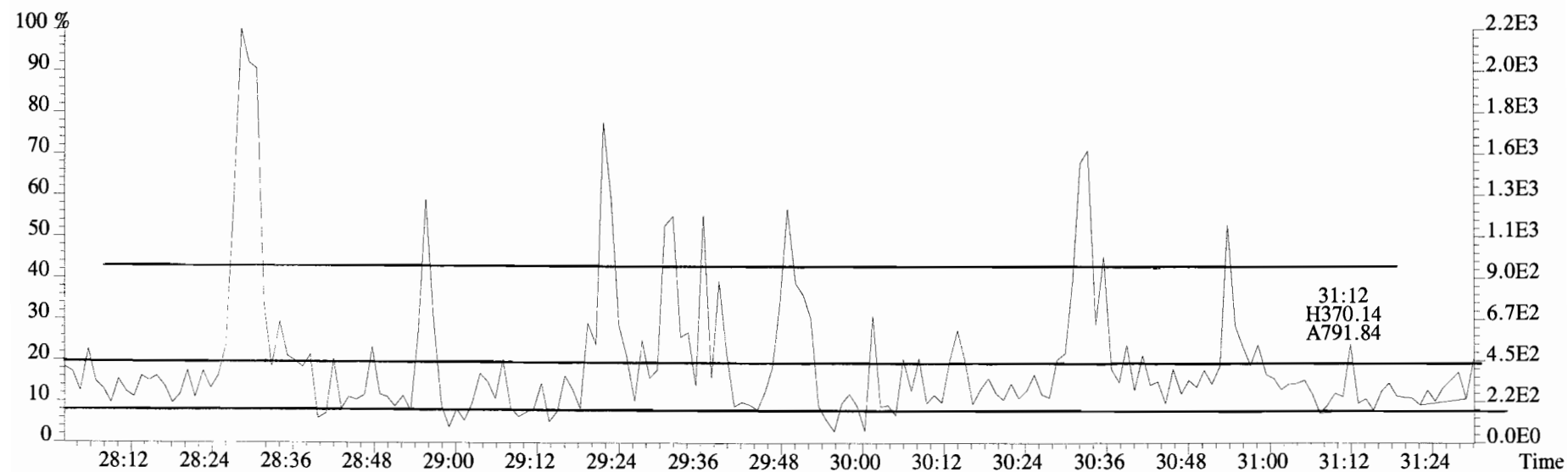
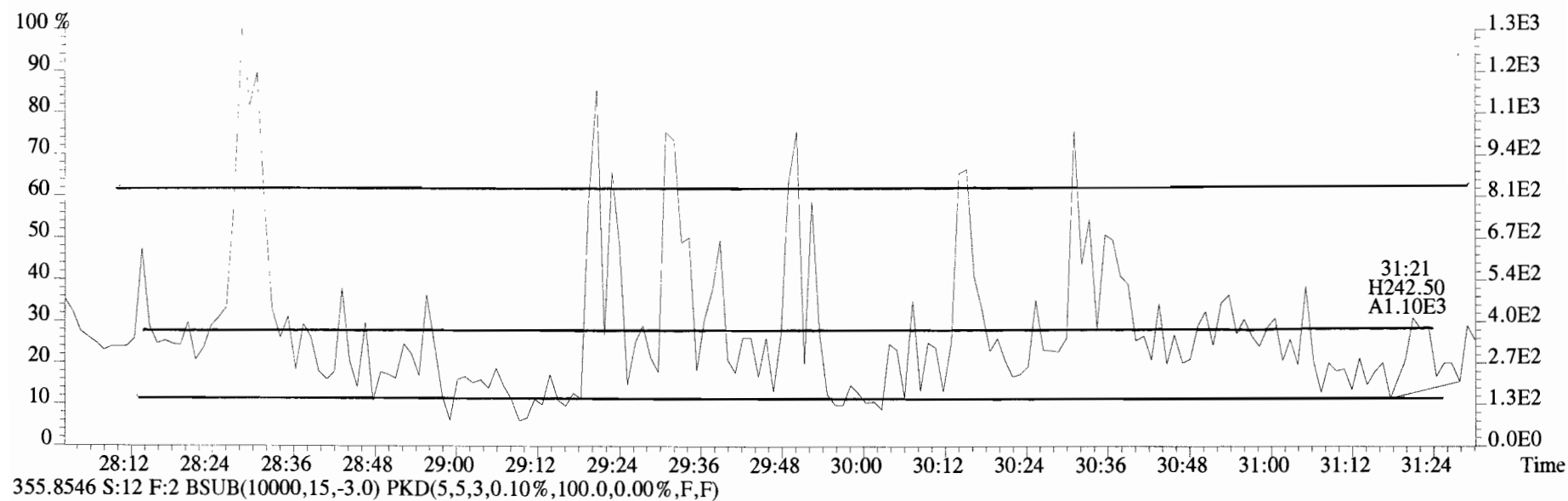
367.8949 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



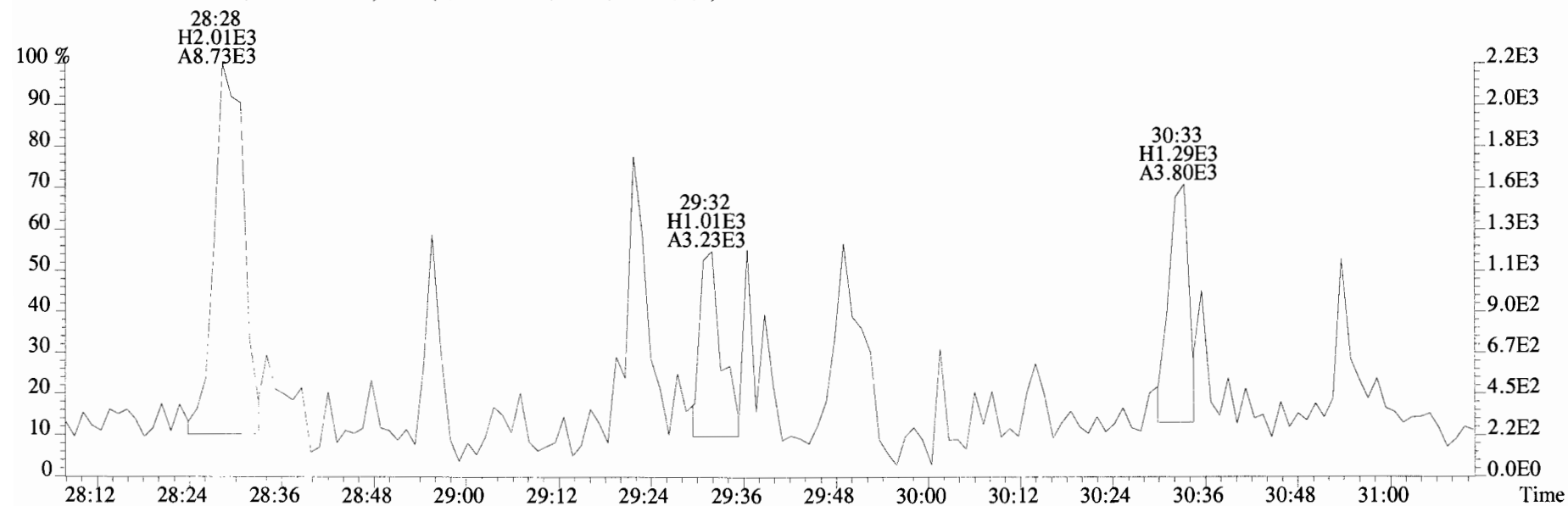
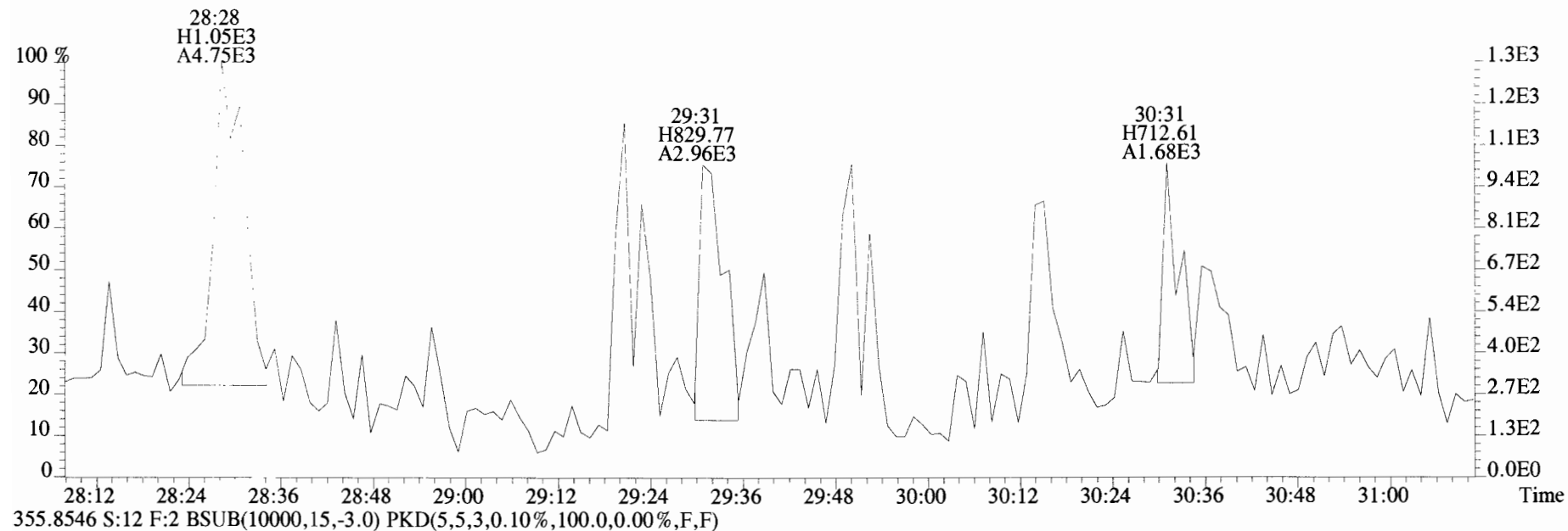
366.9792 S:12 F:2



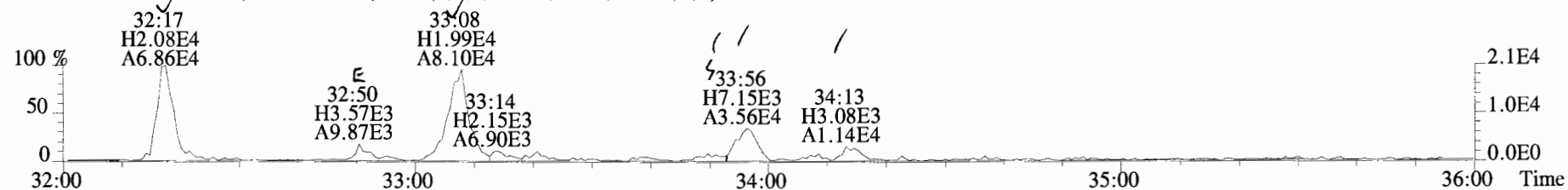
File:190627D1 #1-184 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



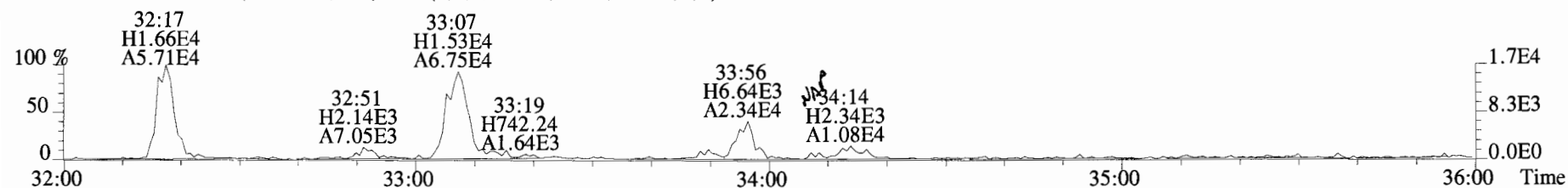
File:190627D1 #1-184 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



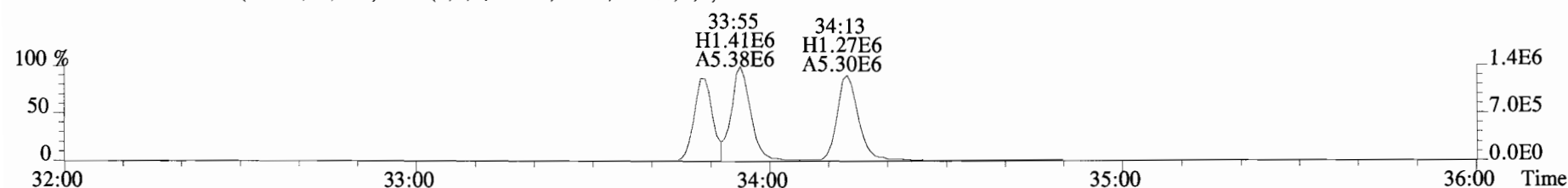
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



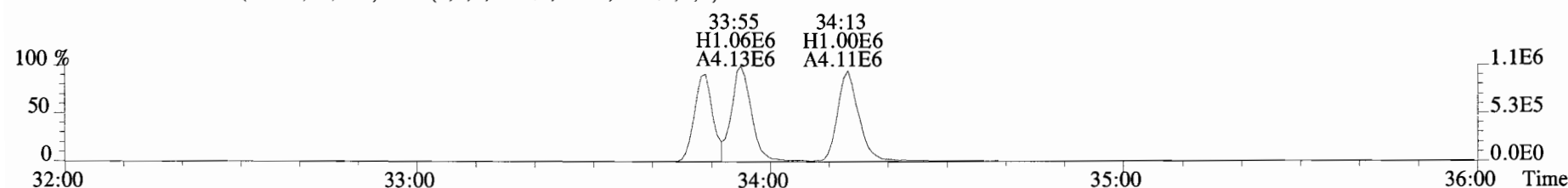
391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



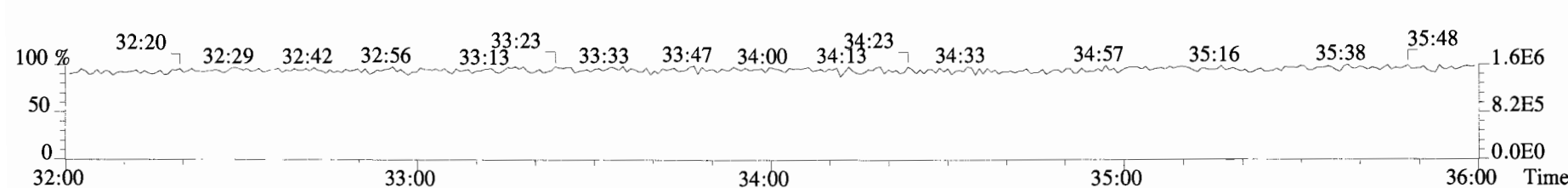
401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



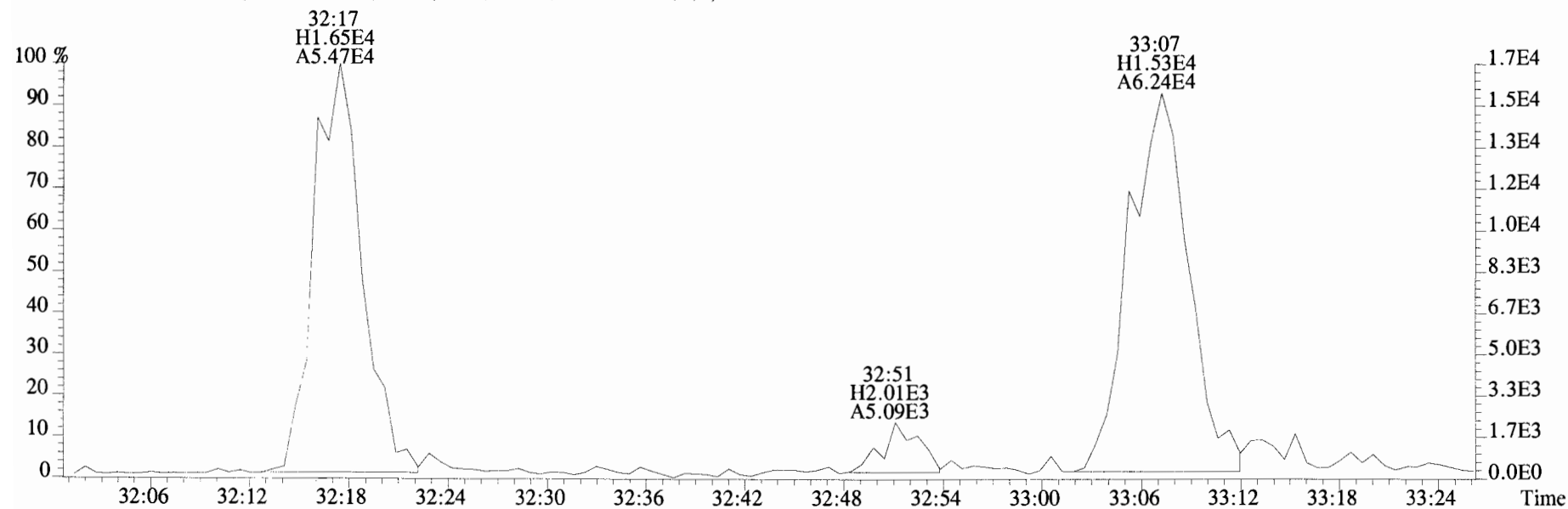
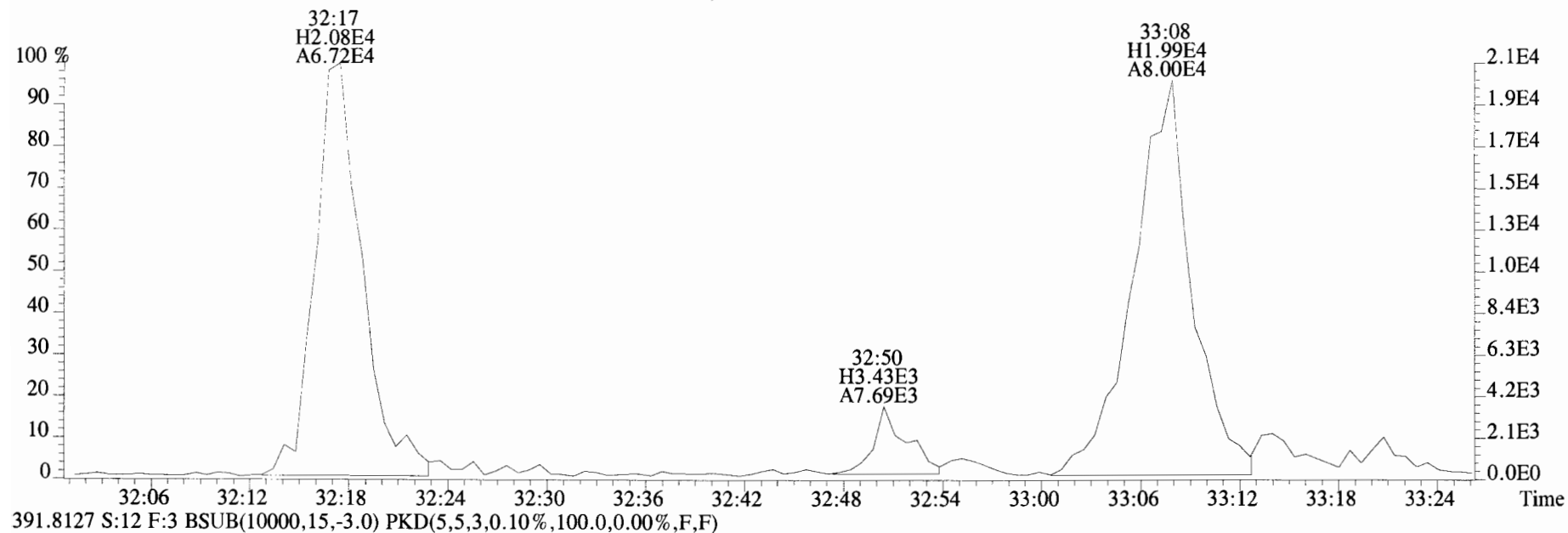
403.8530 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



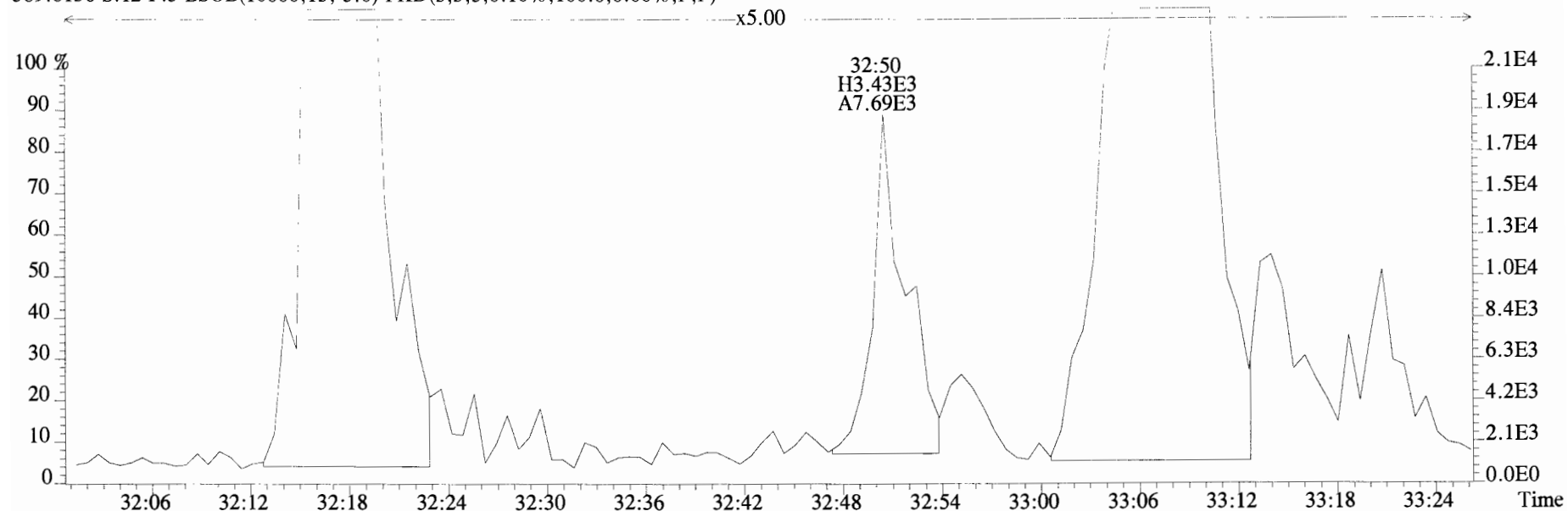
392.9760 S:12 F:3



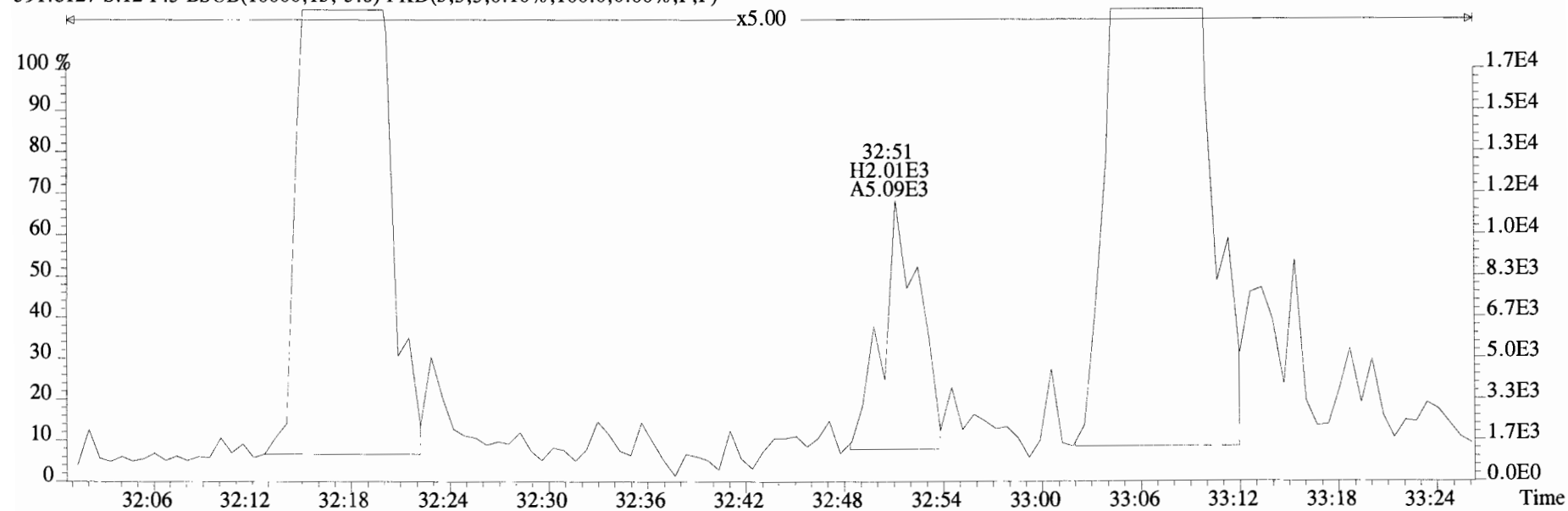
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 389.8156 S:12 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



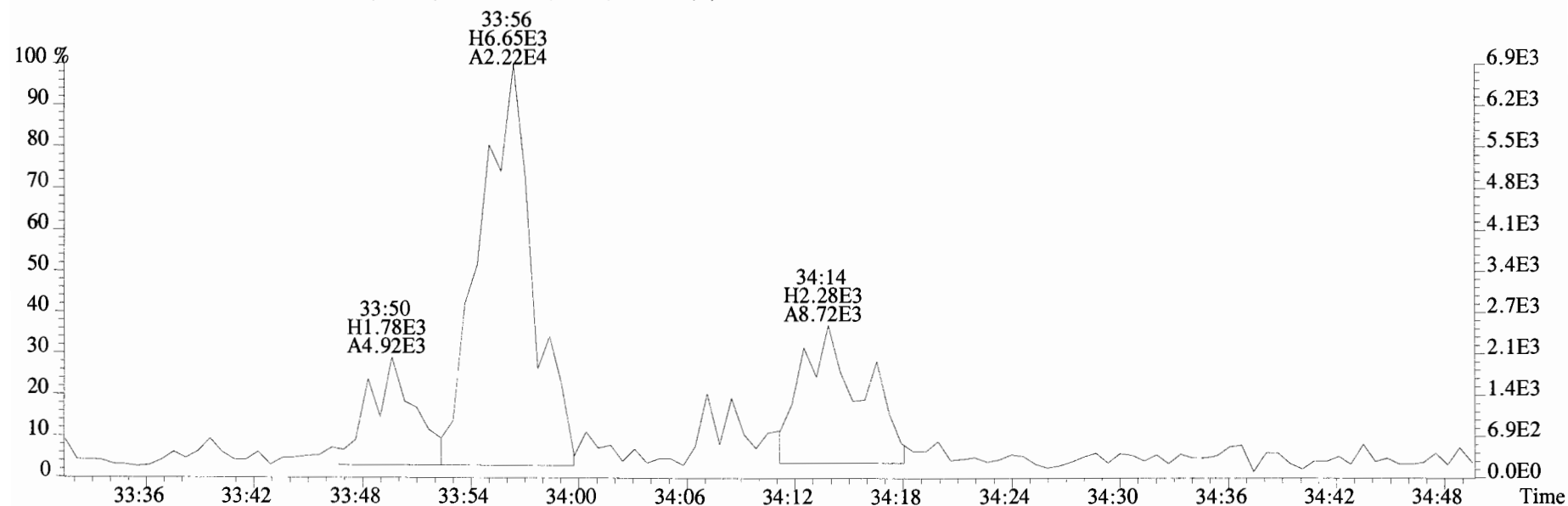
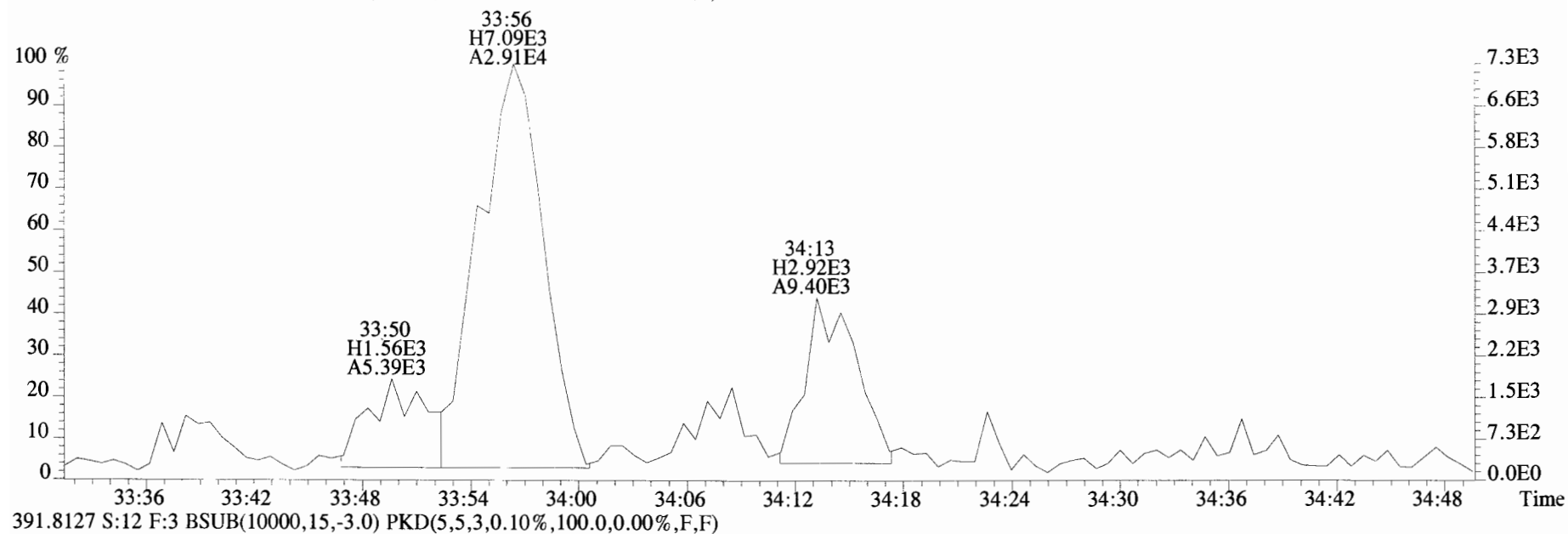
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



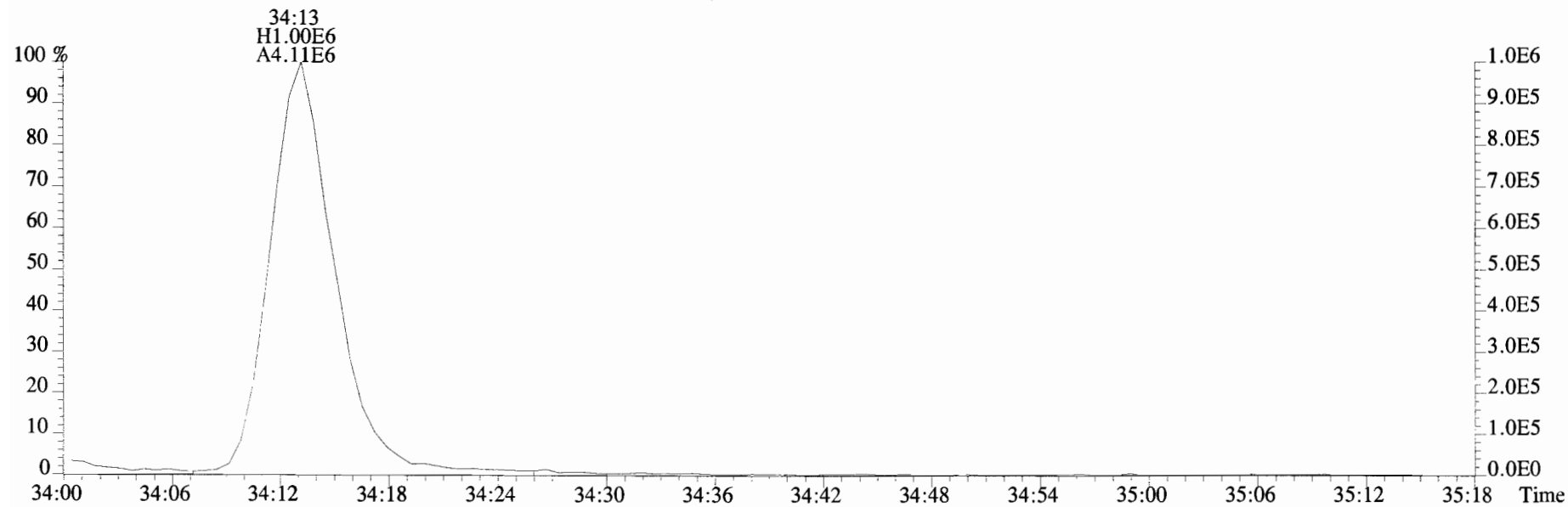
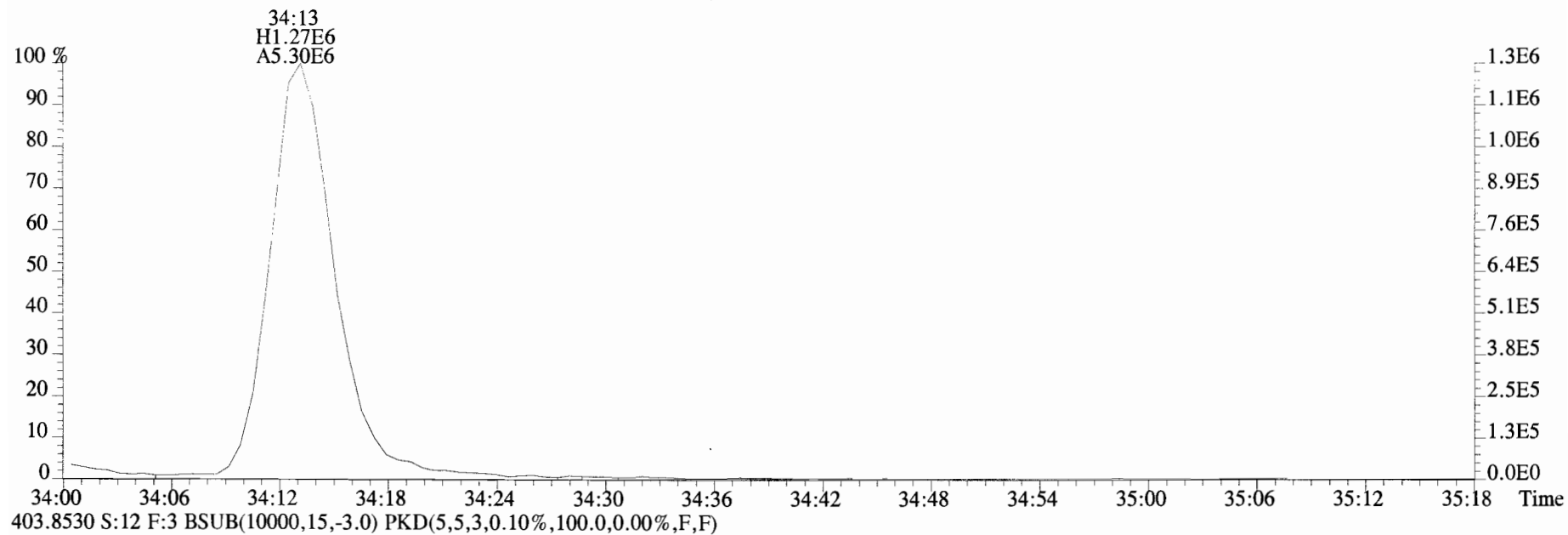
391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



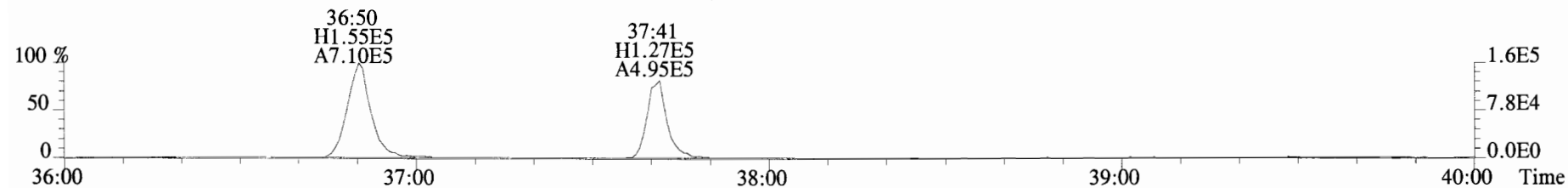
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



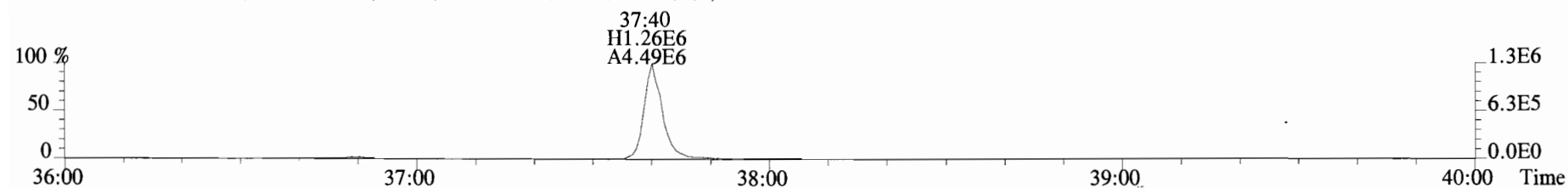
File:190627D1 #1-356 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



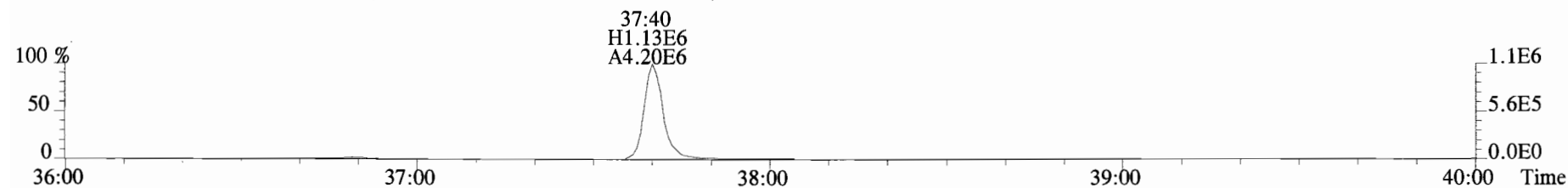
425.7737 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



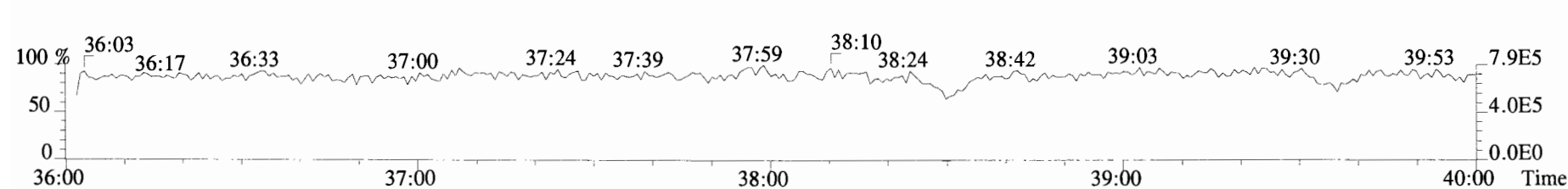
435.8169 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



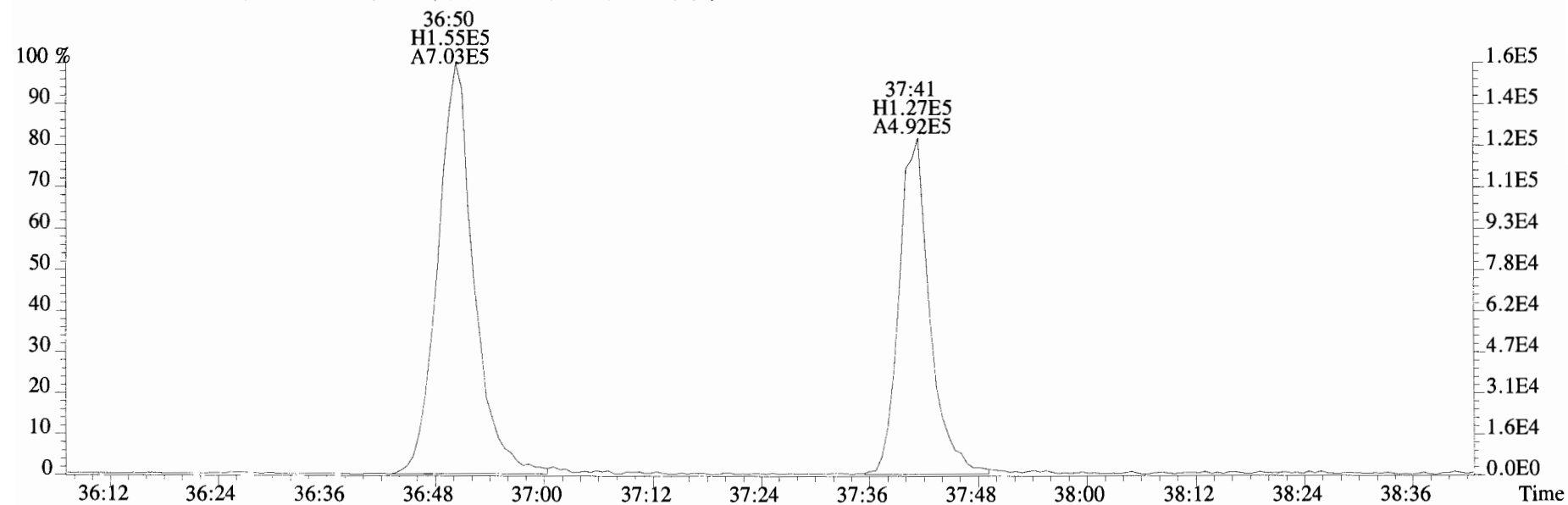
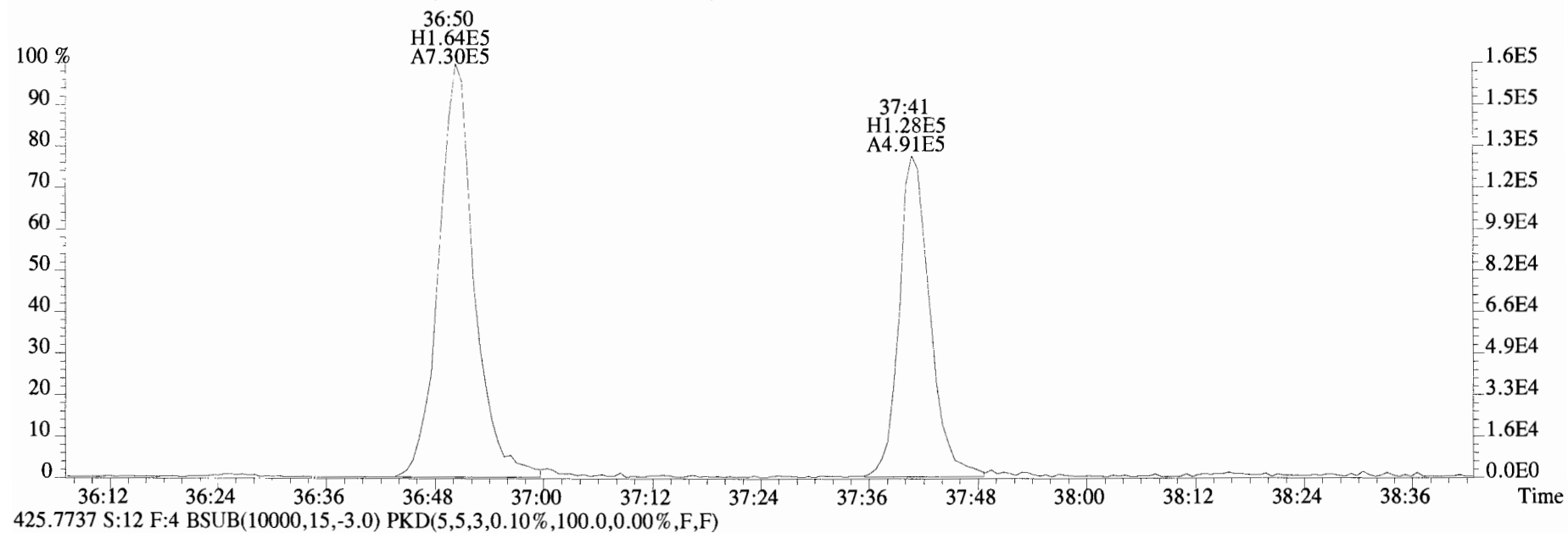
437.8140 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



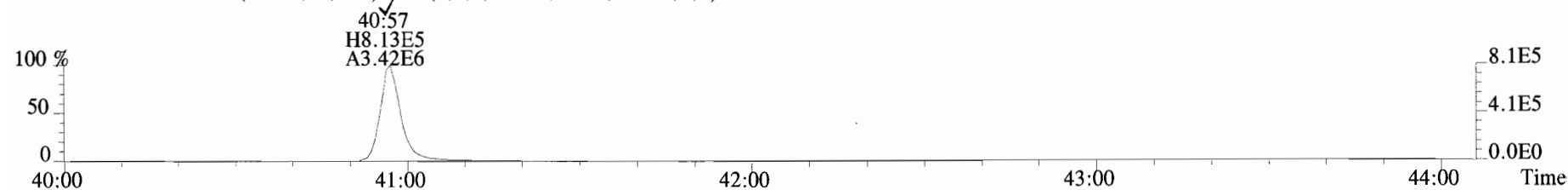
454.9728 S:12 F:4



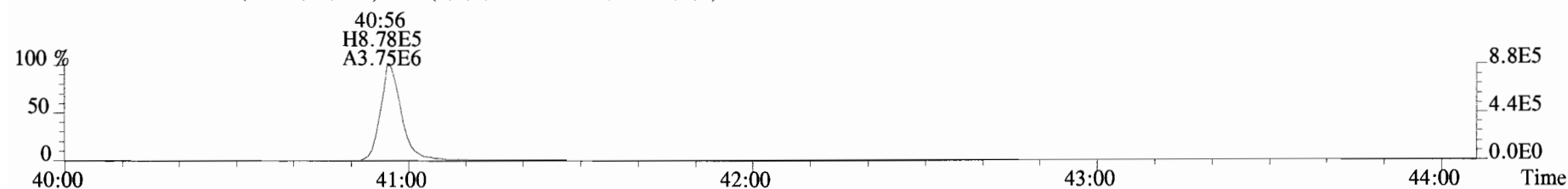
File:190627D1 #1-356 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



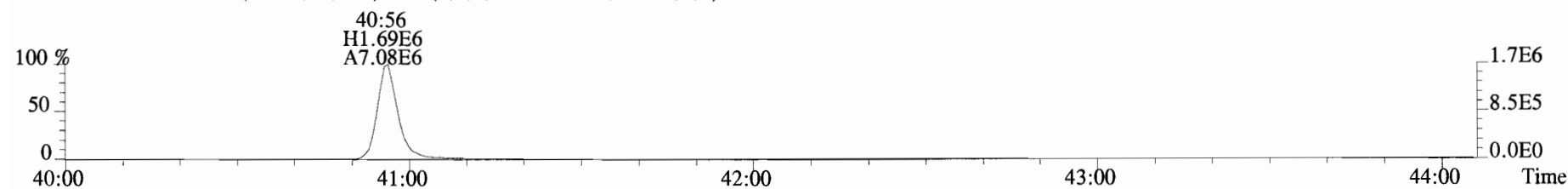
File:190627D1 #1-431 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
457.7377 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



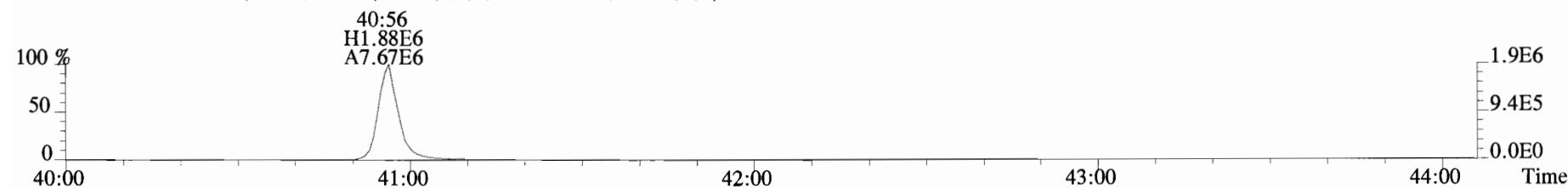
459.7348 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



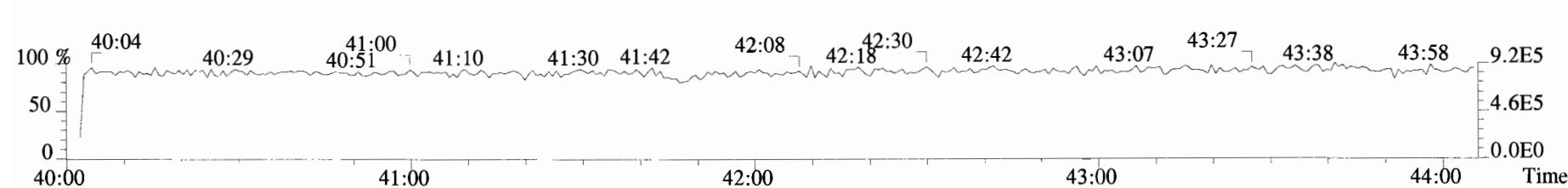
469.7780 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



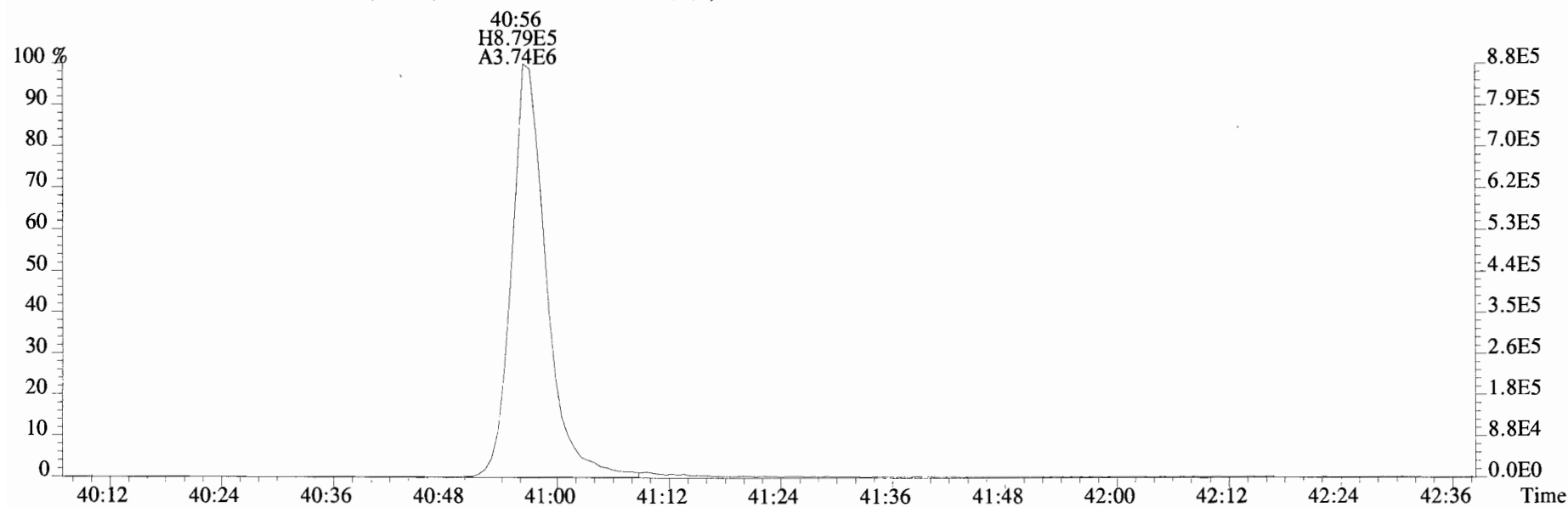
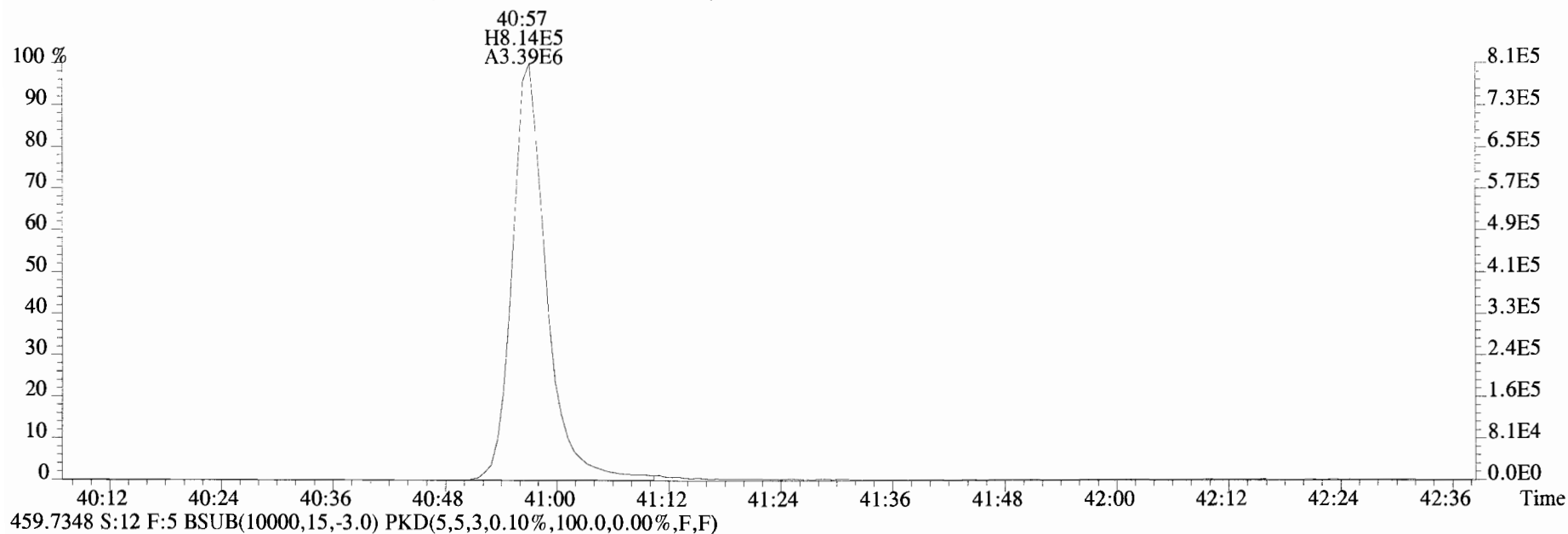
471.7750 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



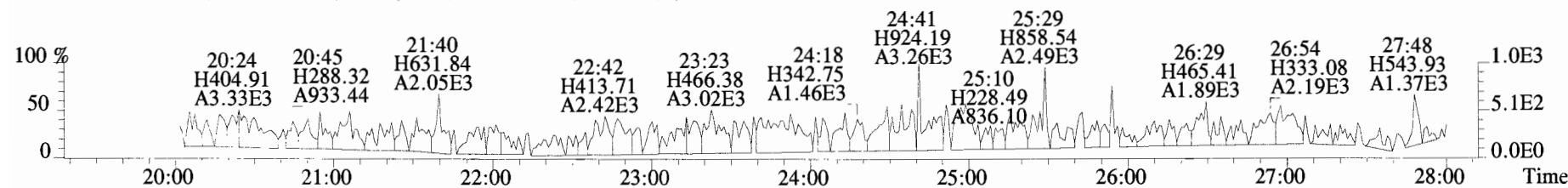
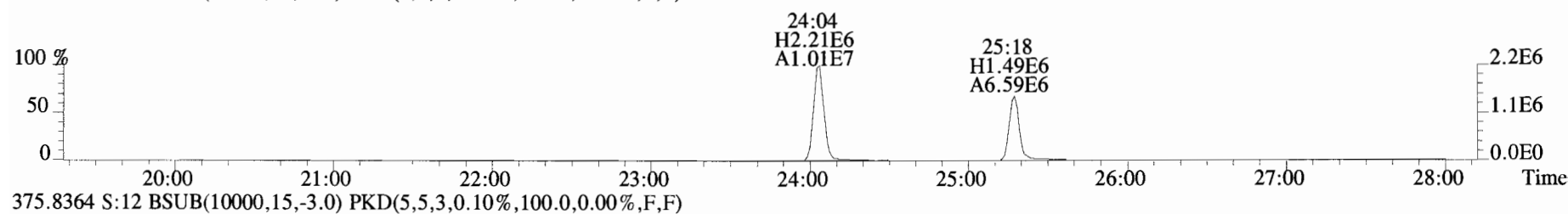
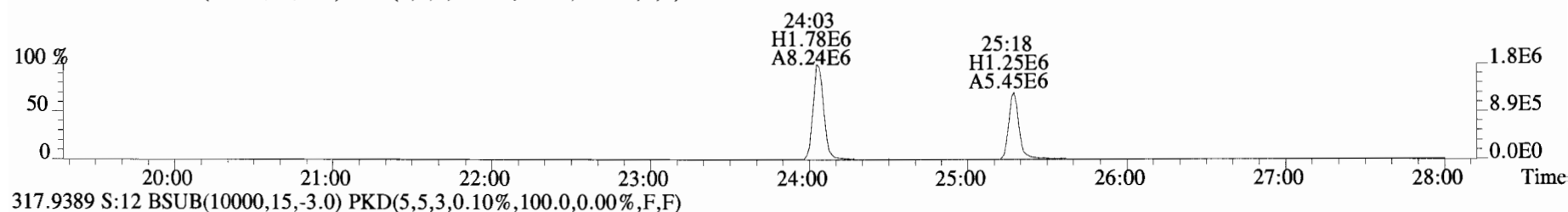
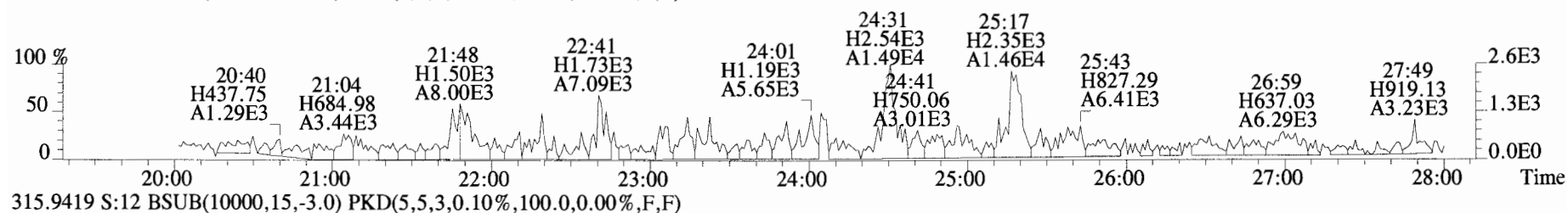
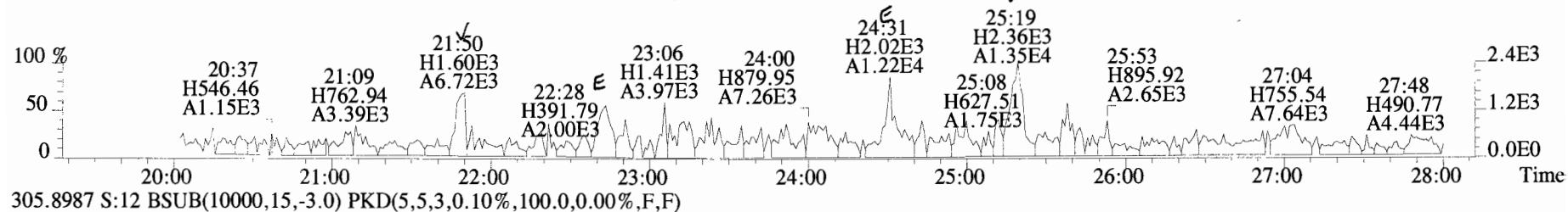
454.9728 S:12 F:5



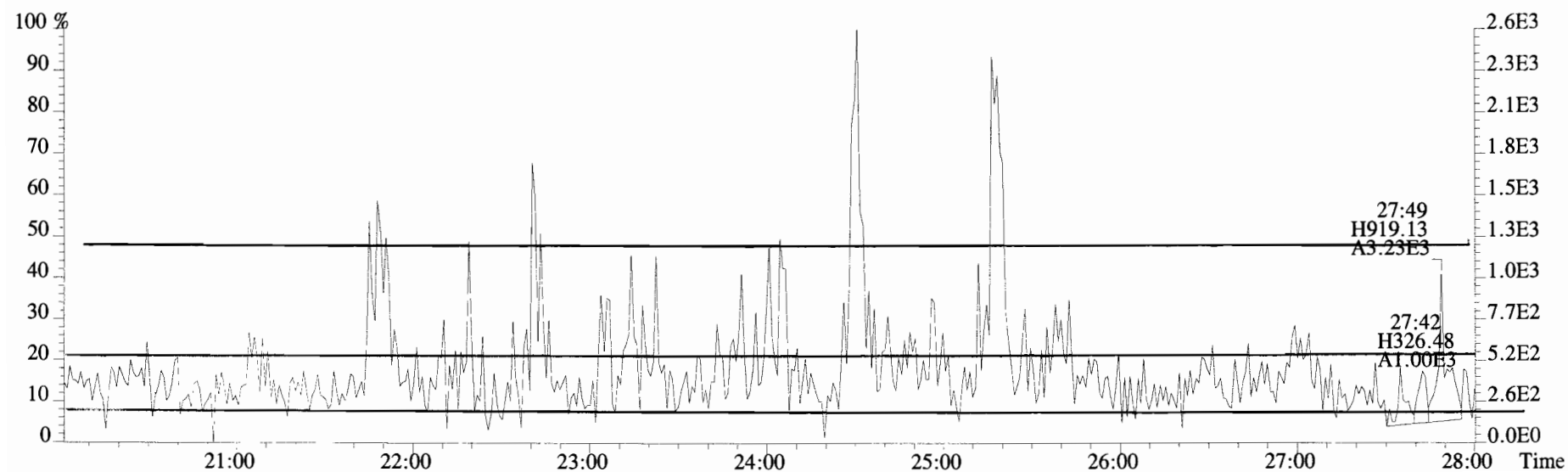
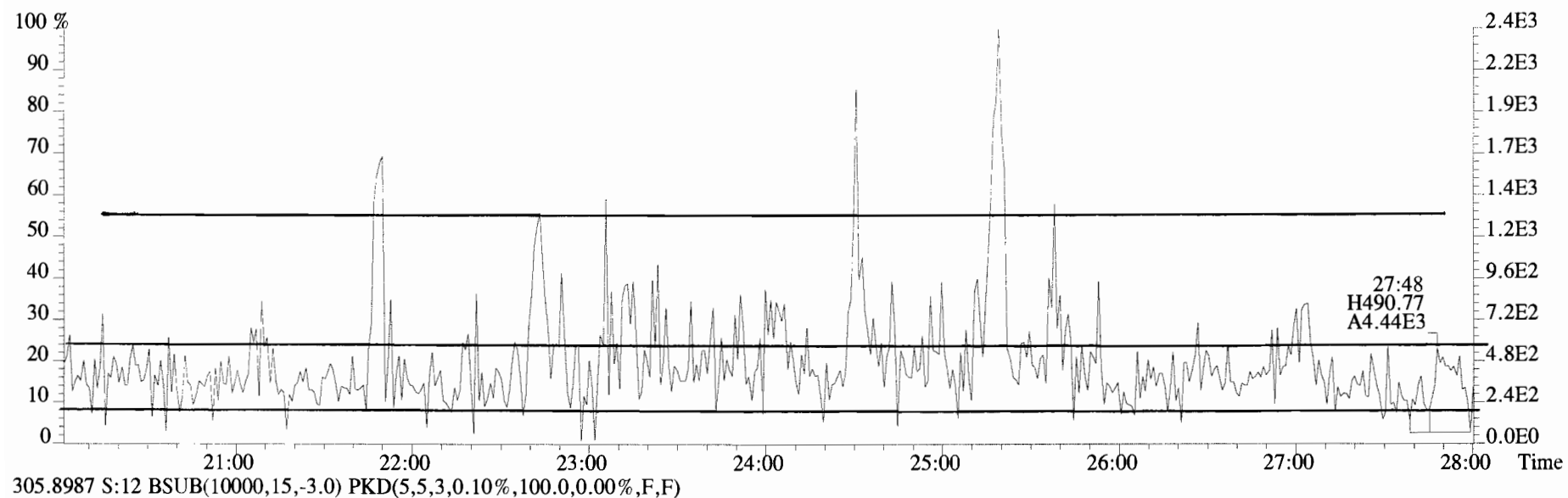
File:190627D1 #1-431 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
457.7377 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



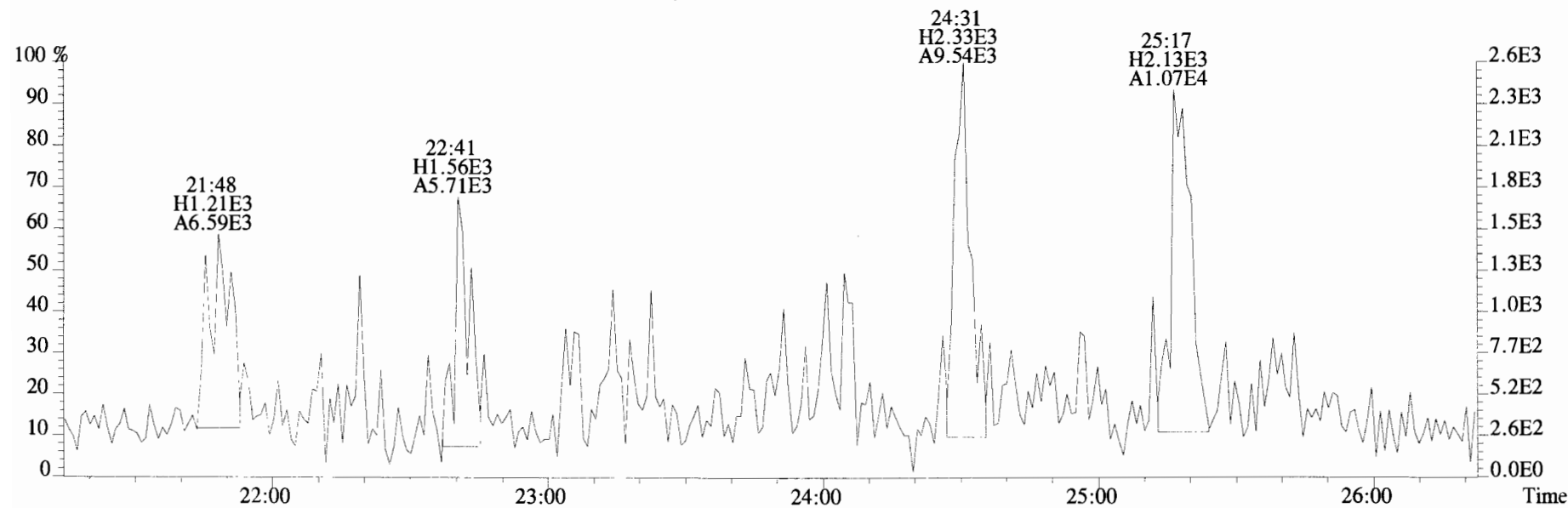
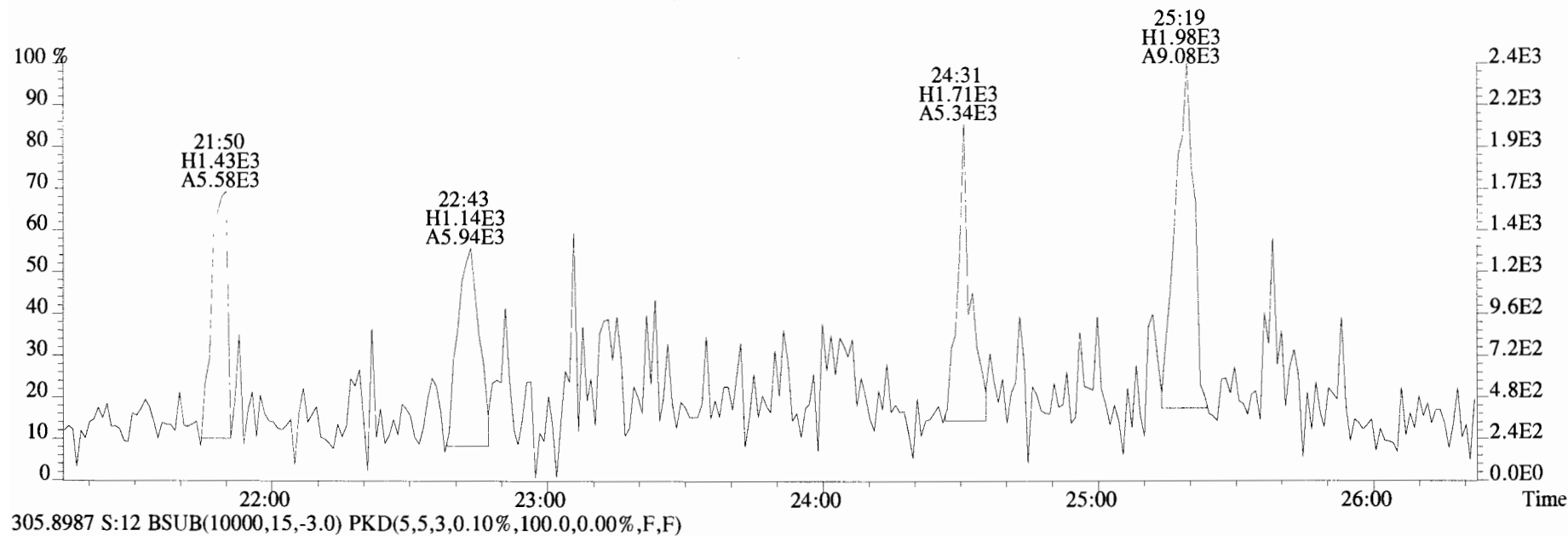
File:190627D1 #1-513 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



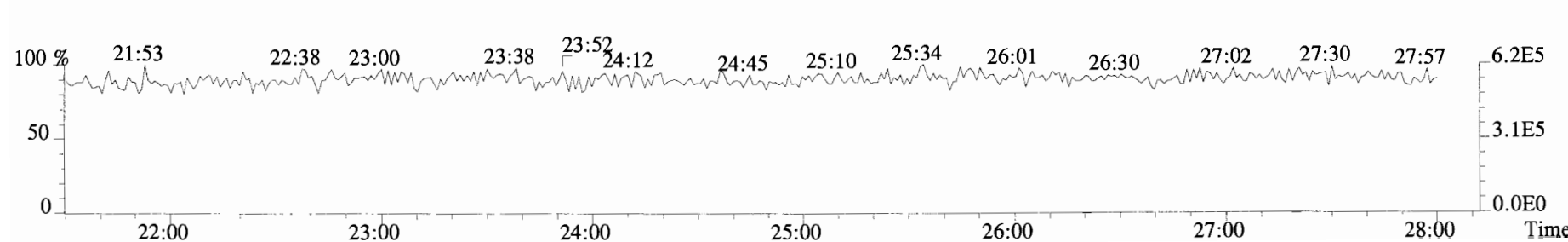
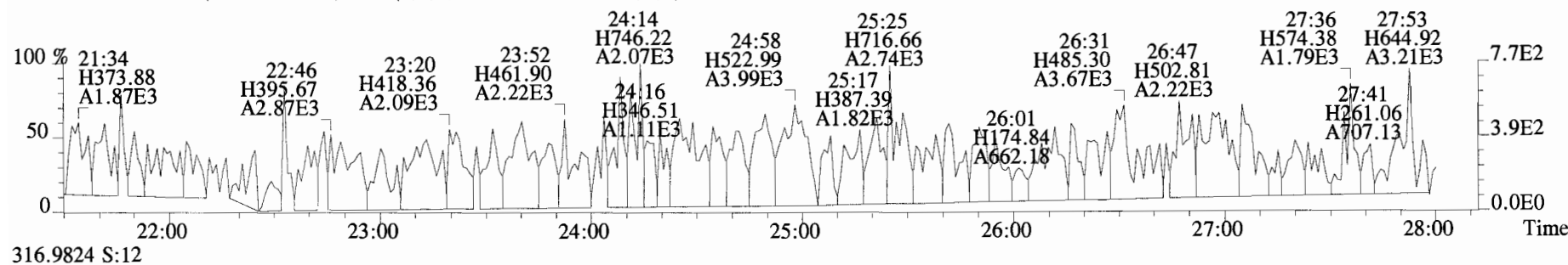
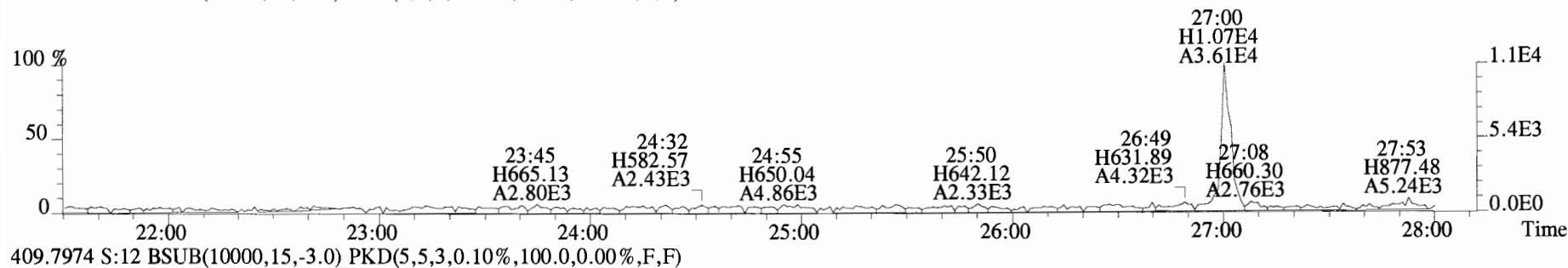
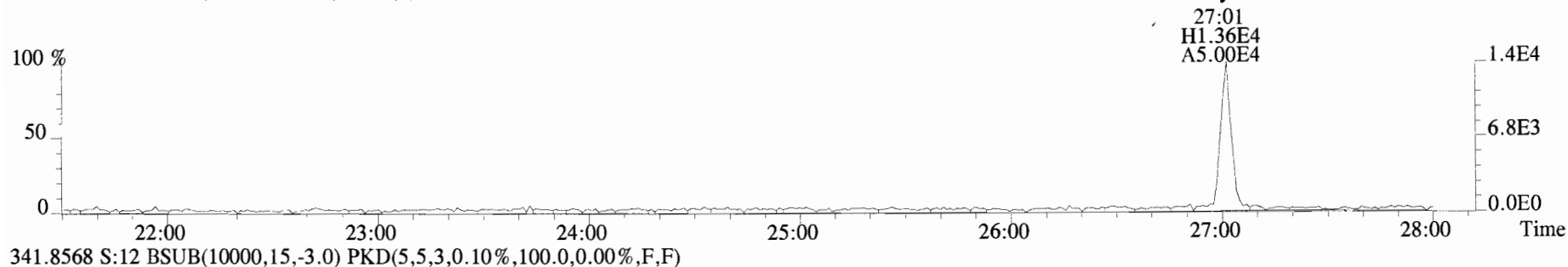
File:190627D1 #1-513 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



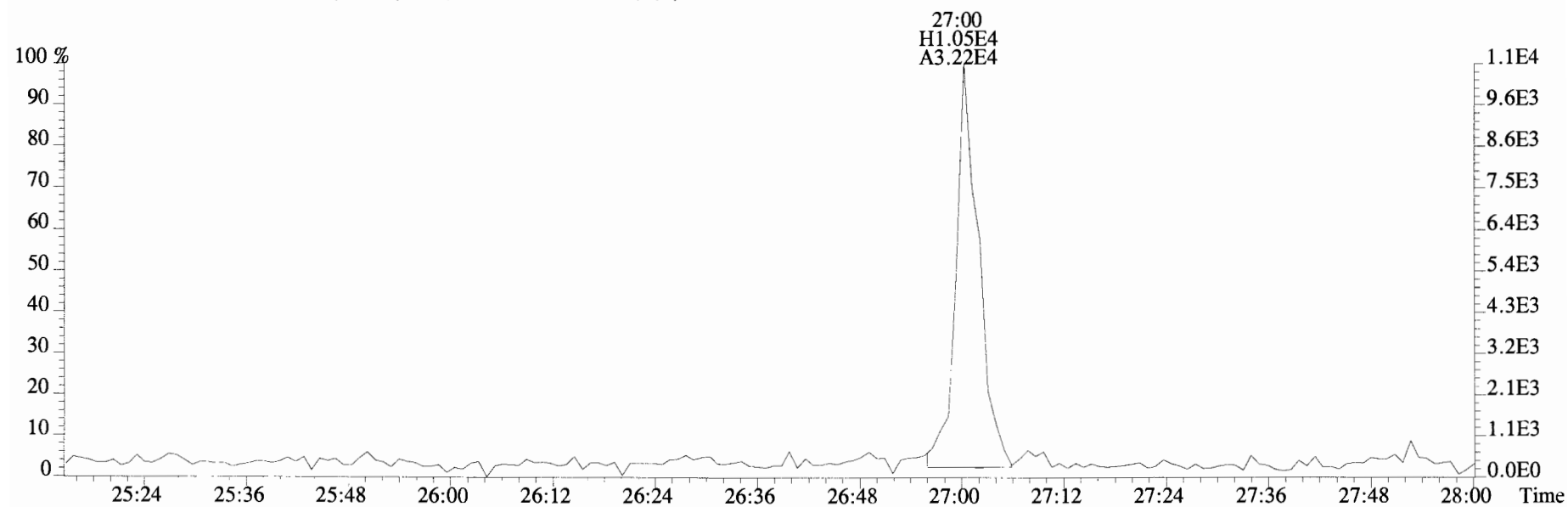
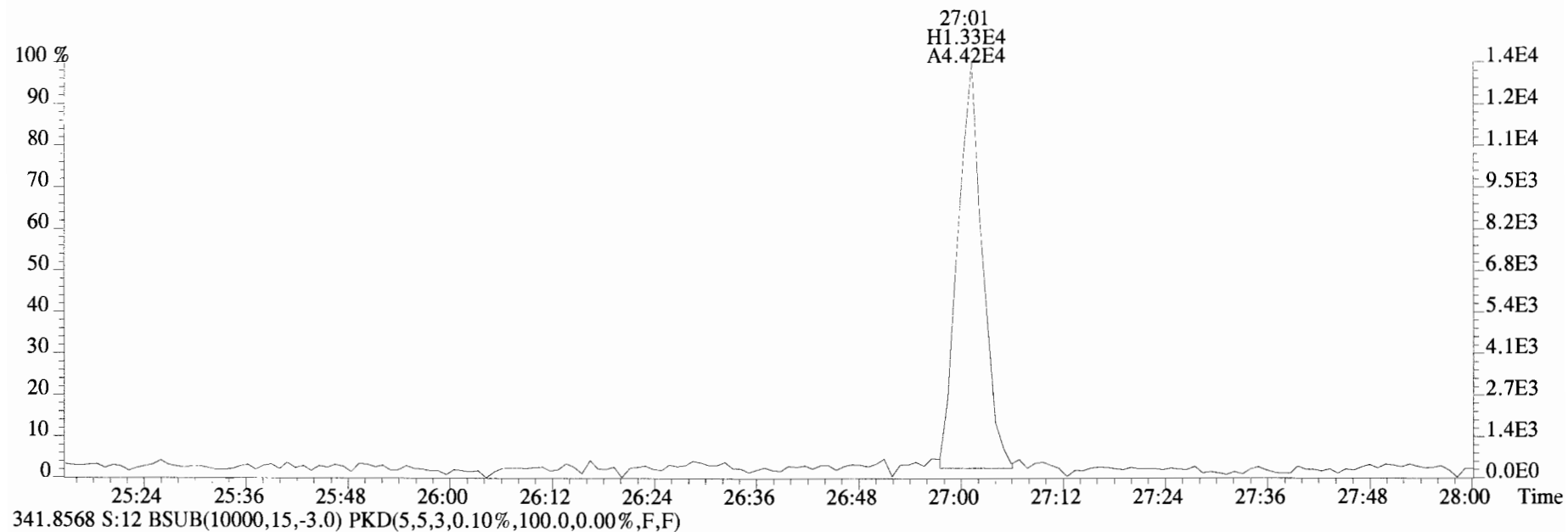
File:190627D1 #1-513 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



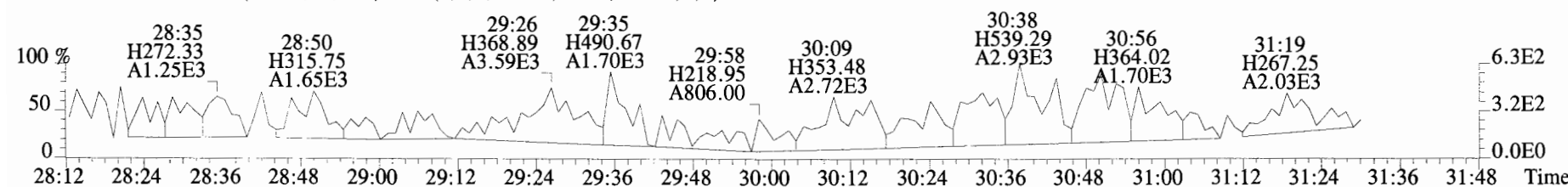
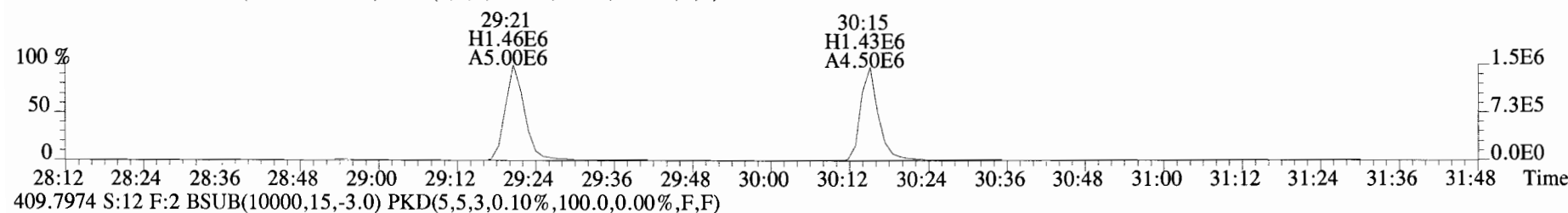
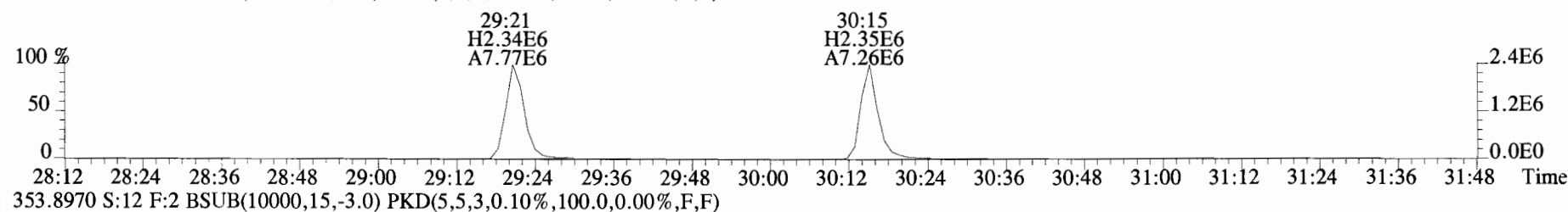
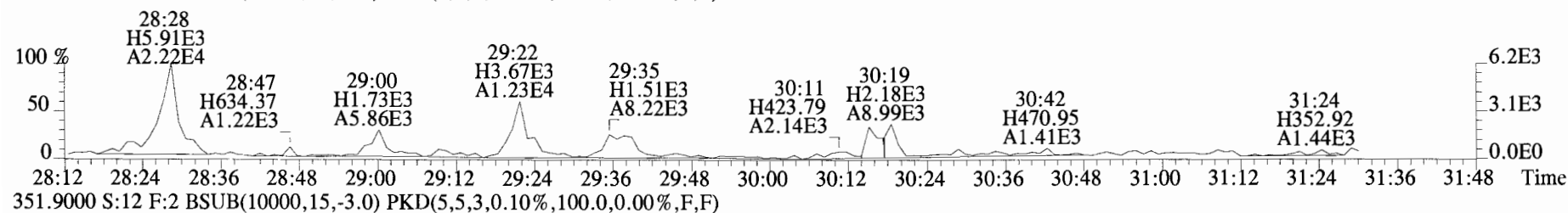
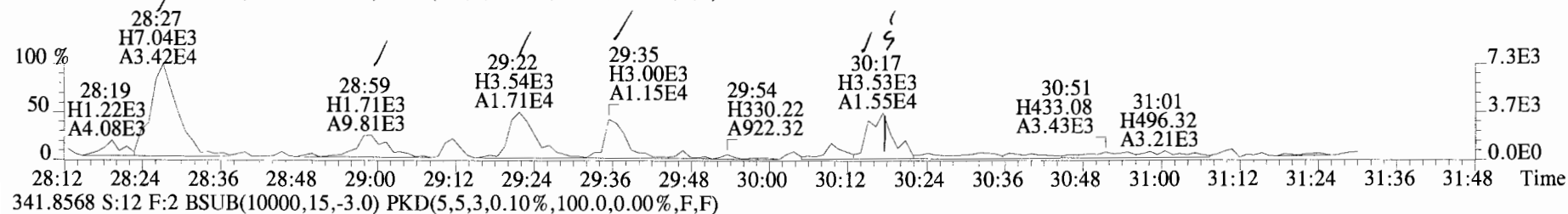
File:190627D1 #1-513 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
339.8597 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



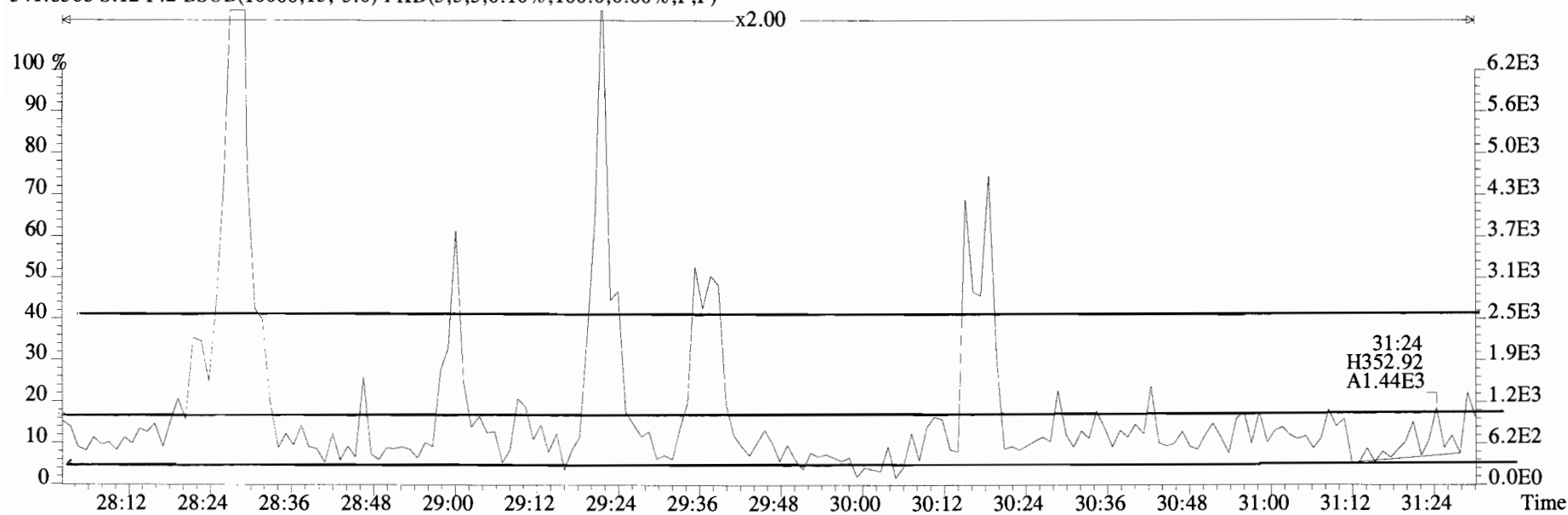
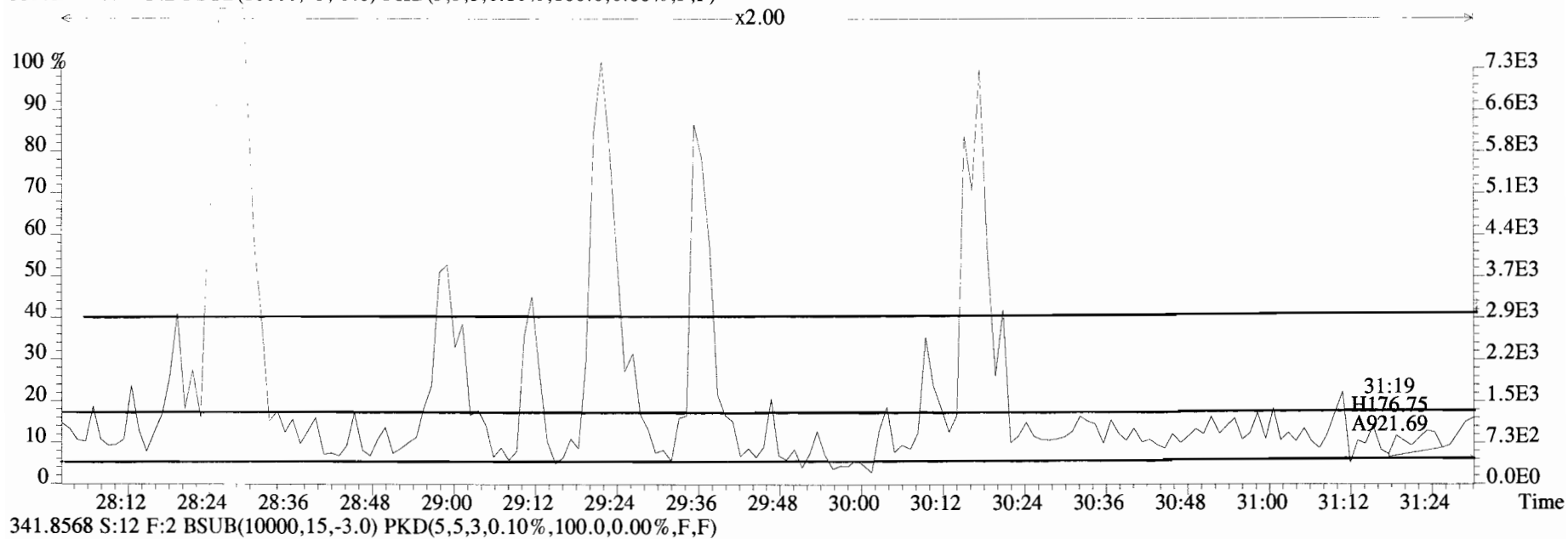
File:190627D1 #1-513 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
339.8597 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



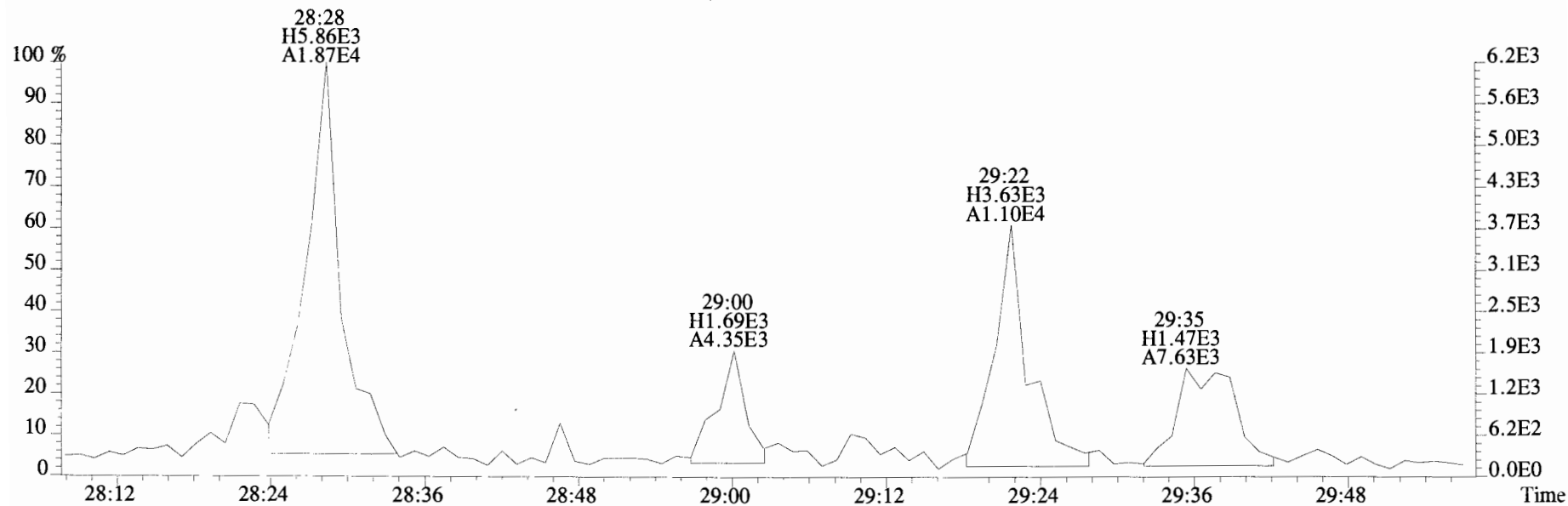
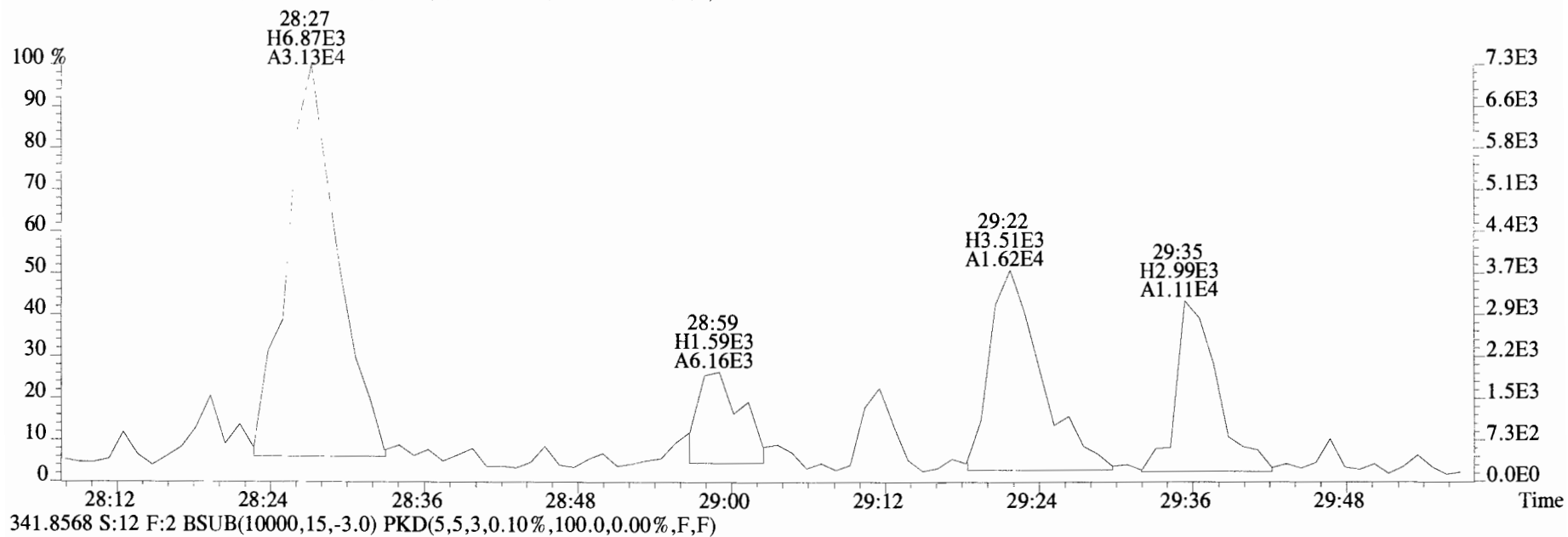
File:190627D1 #1-184 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



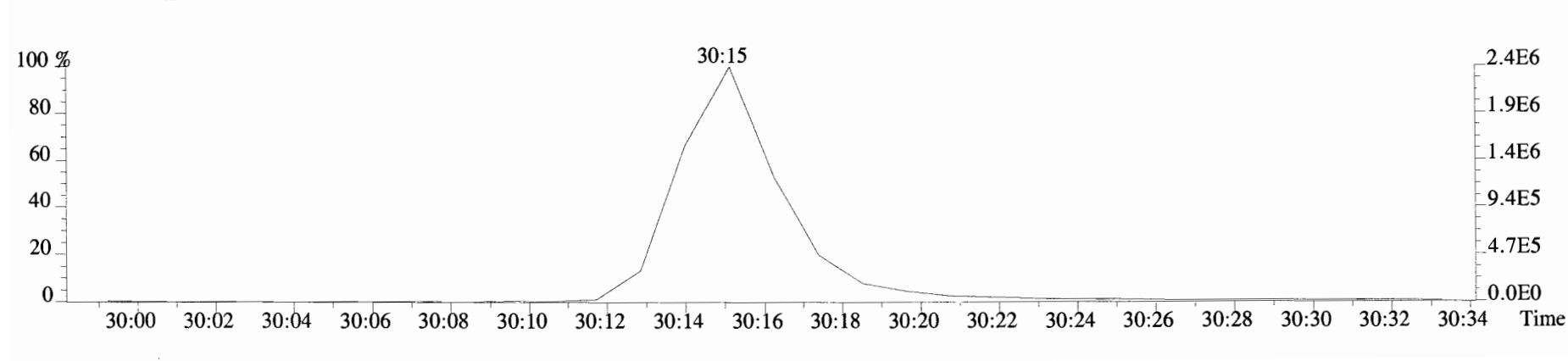
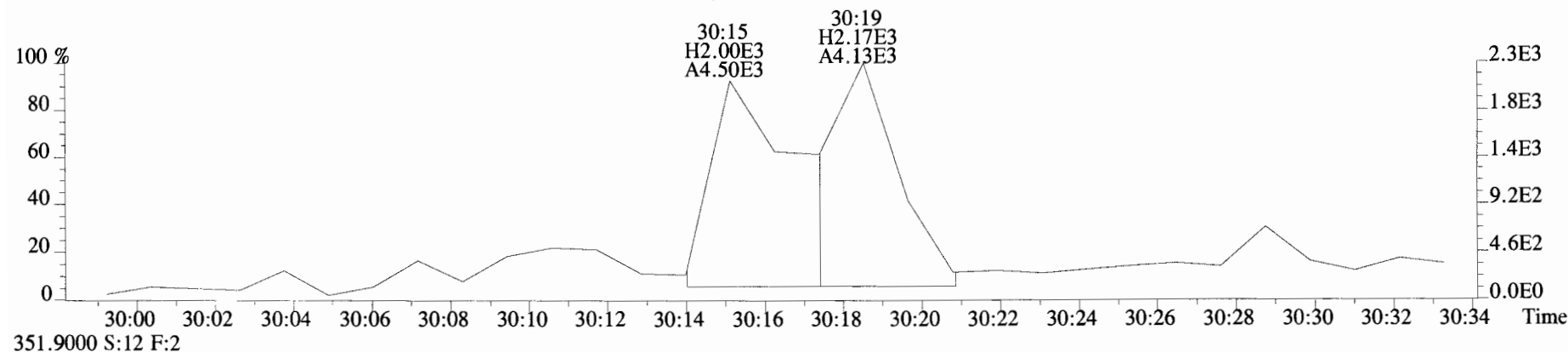
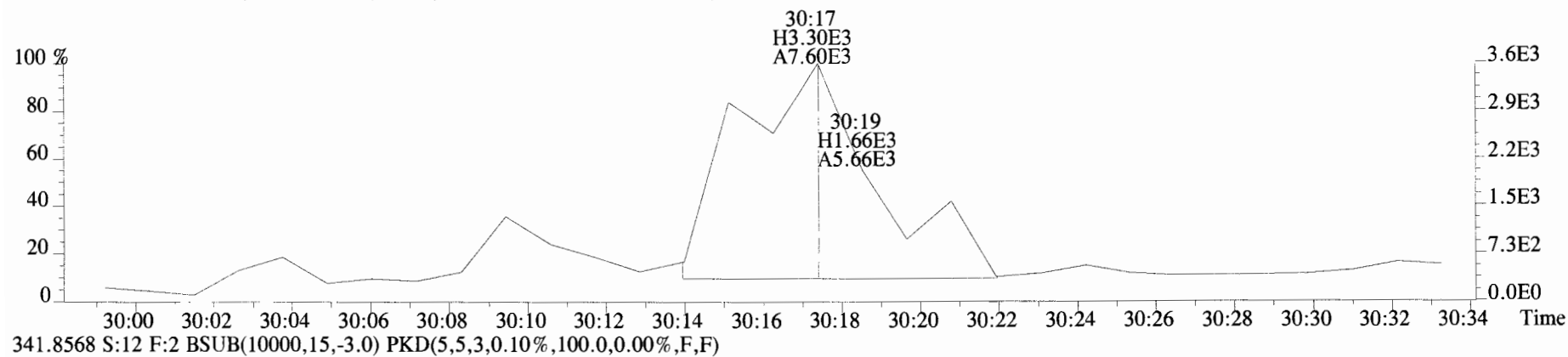
File:190627D1 #1-184 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



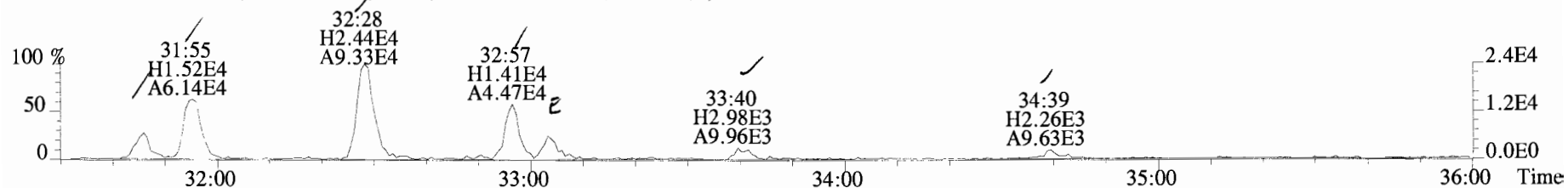
File:190627D1 #1-184 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



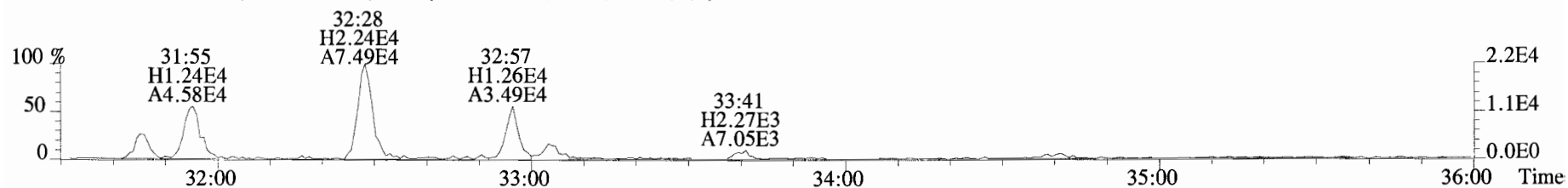
File:190627D1 #1-184 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



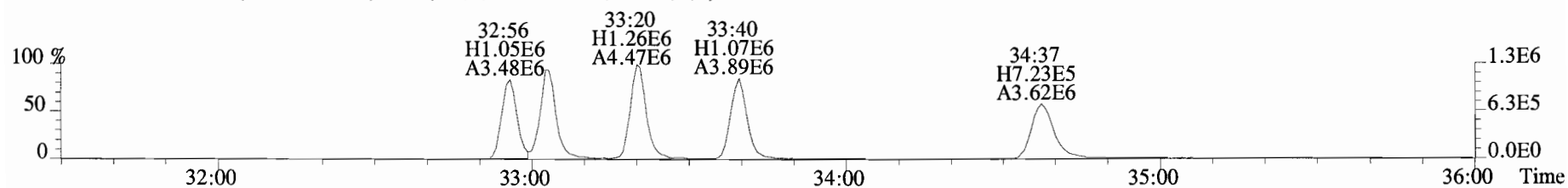
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text: Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



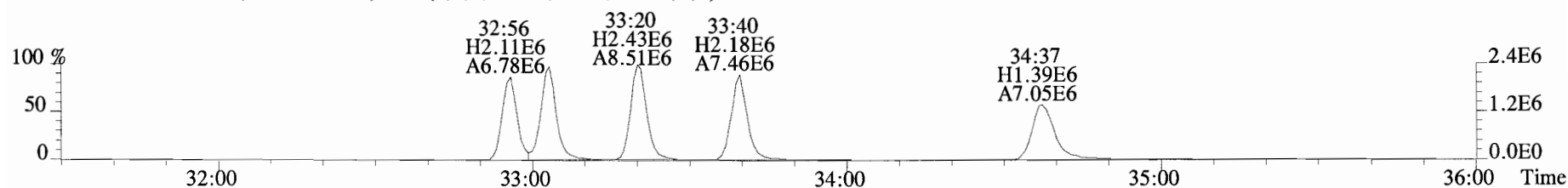
375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



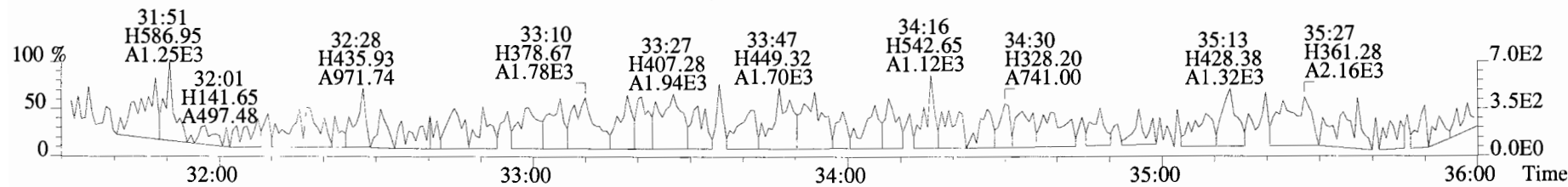
383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



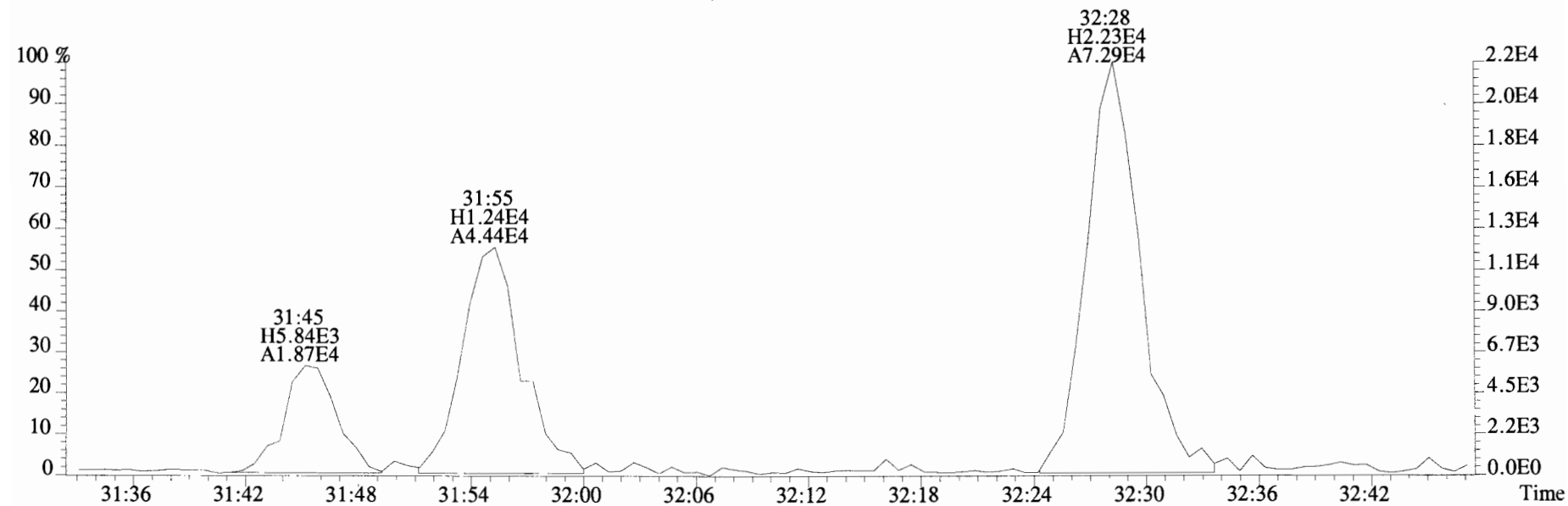
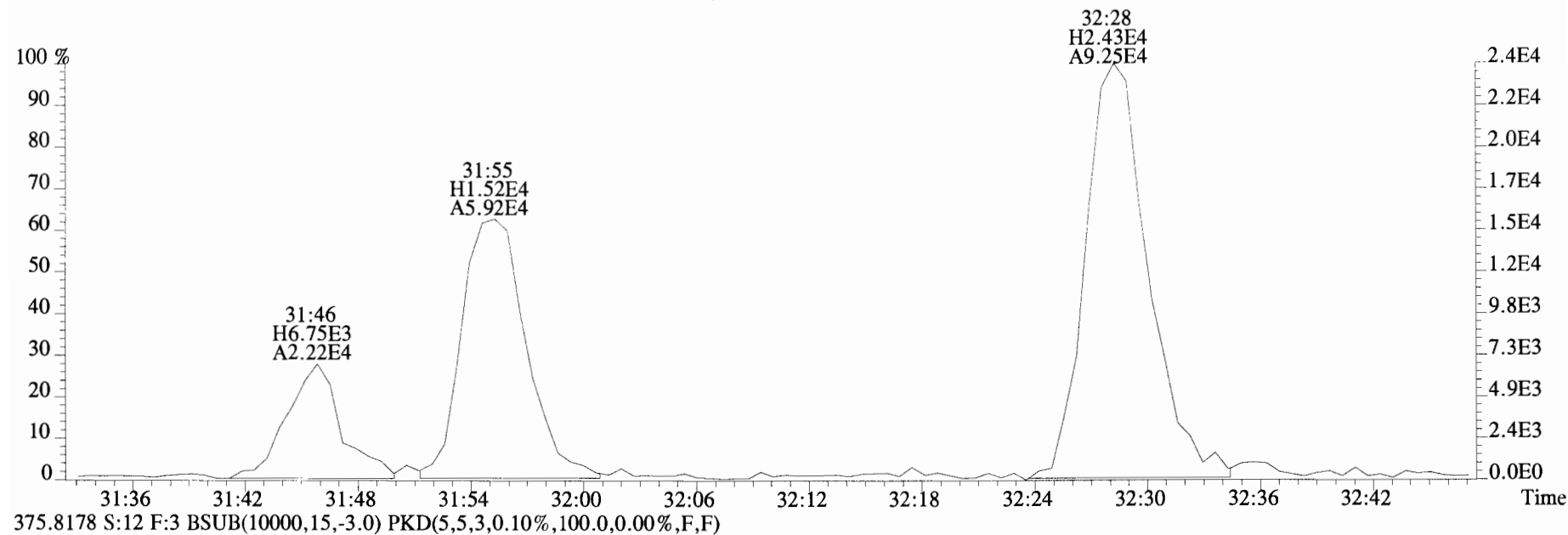
385.8610 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



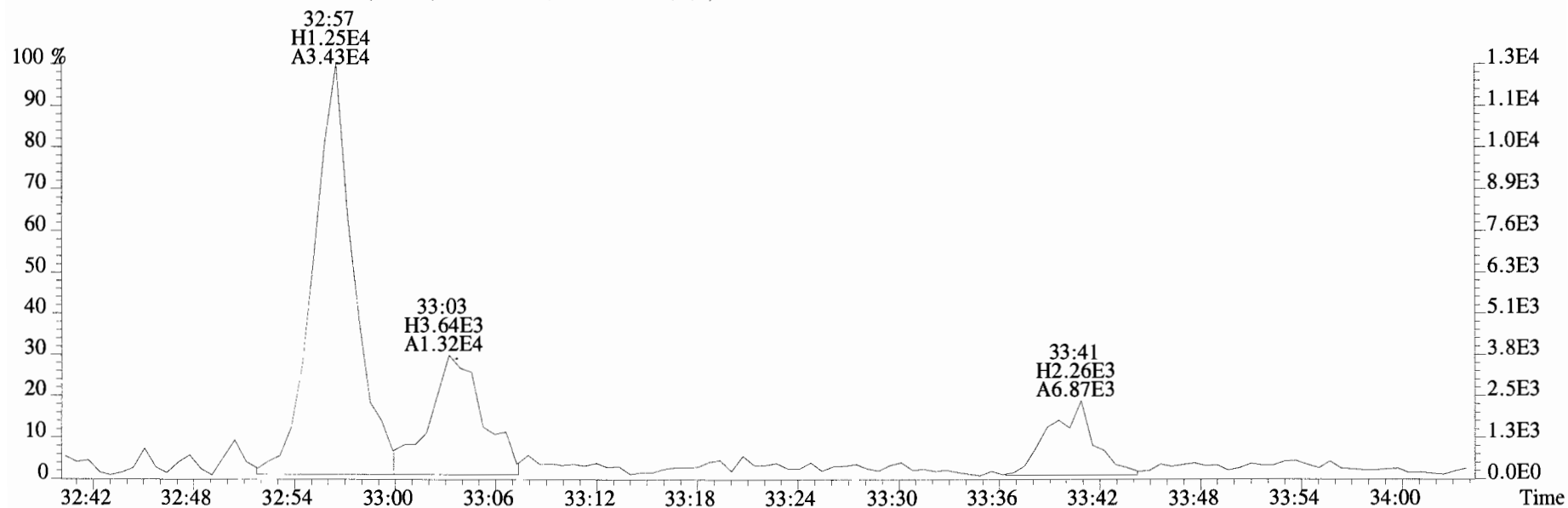
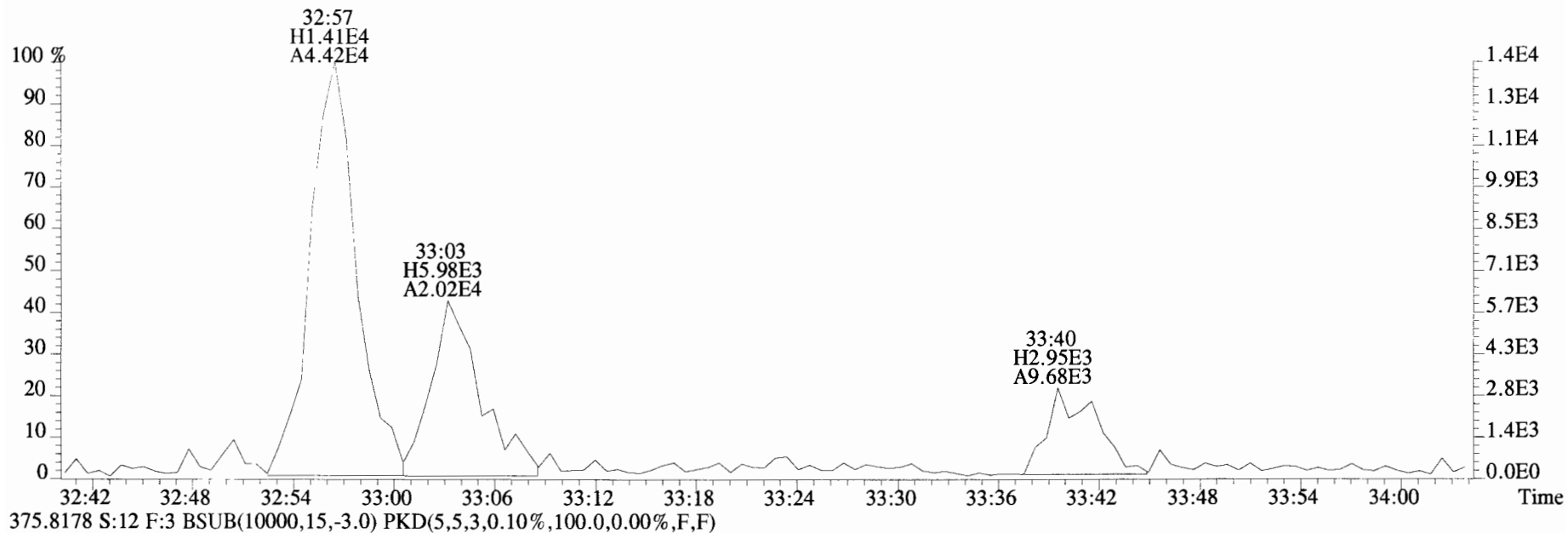
445.7555 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



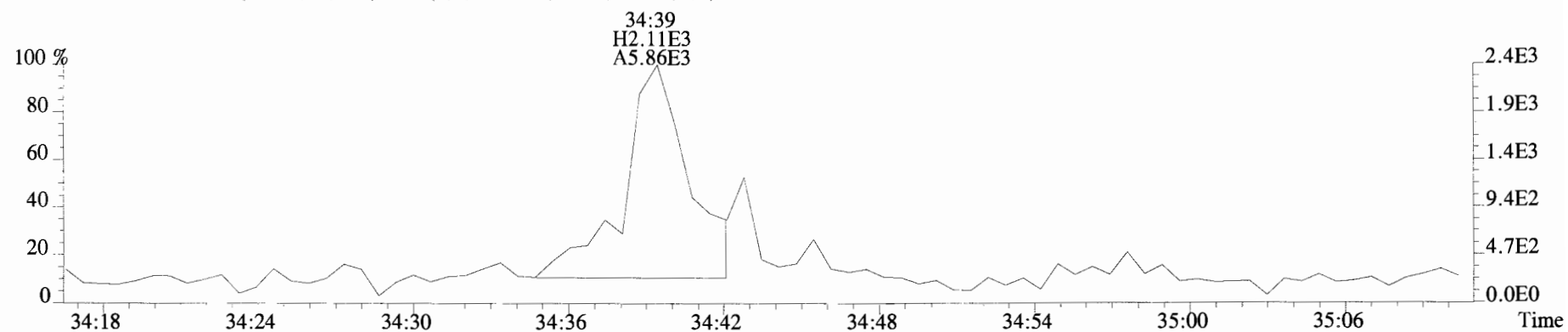
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



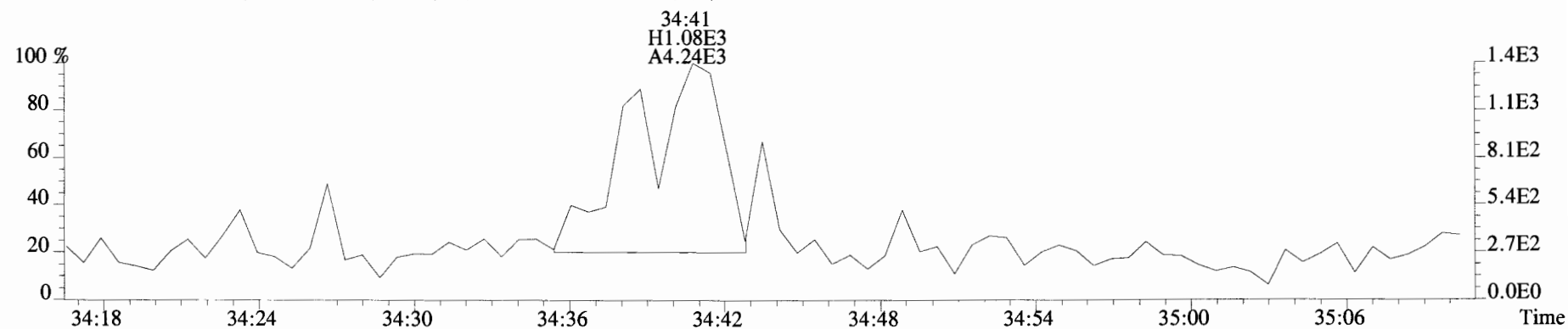
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
373.8207 S:12 F:3 BSUB(T0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



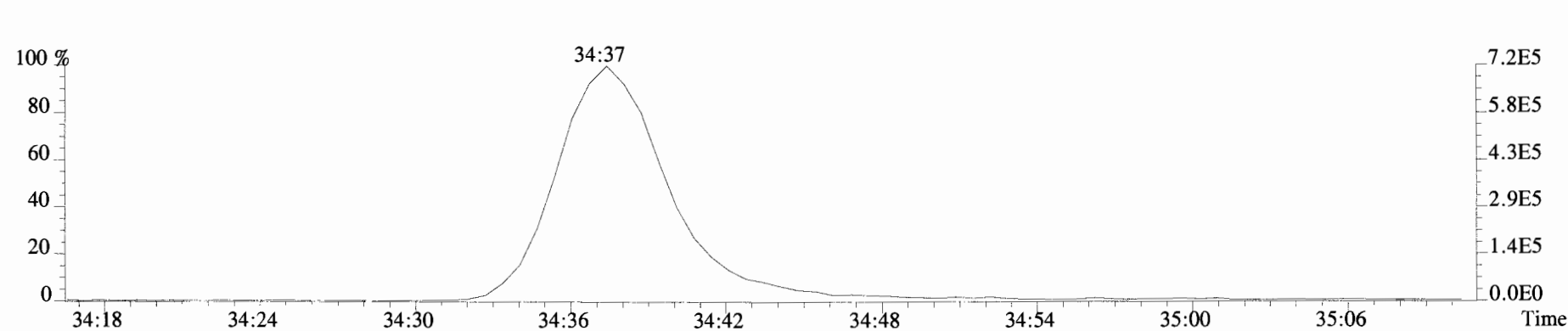
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



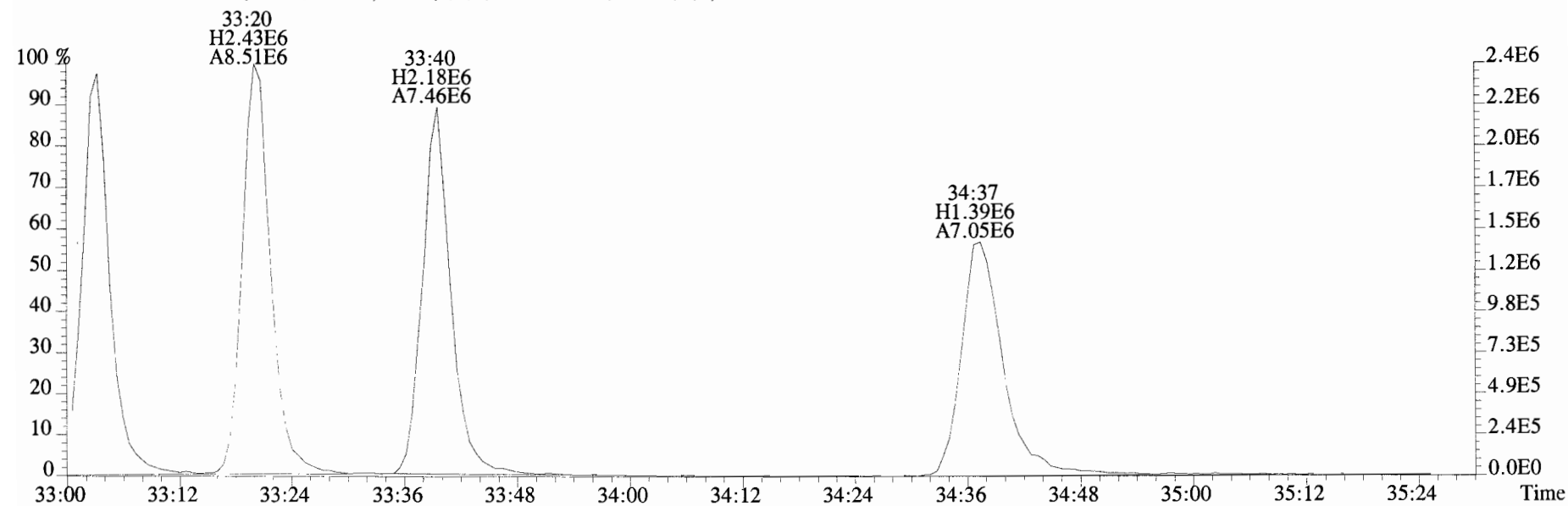
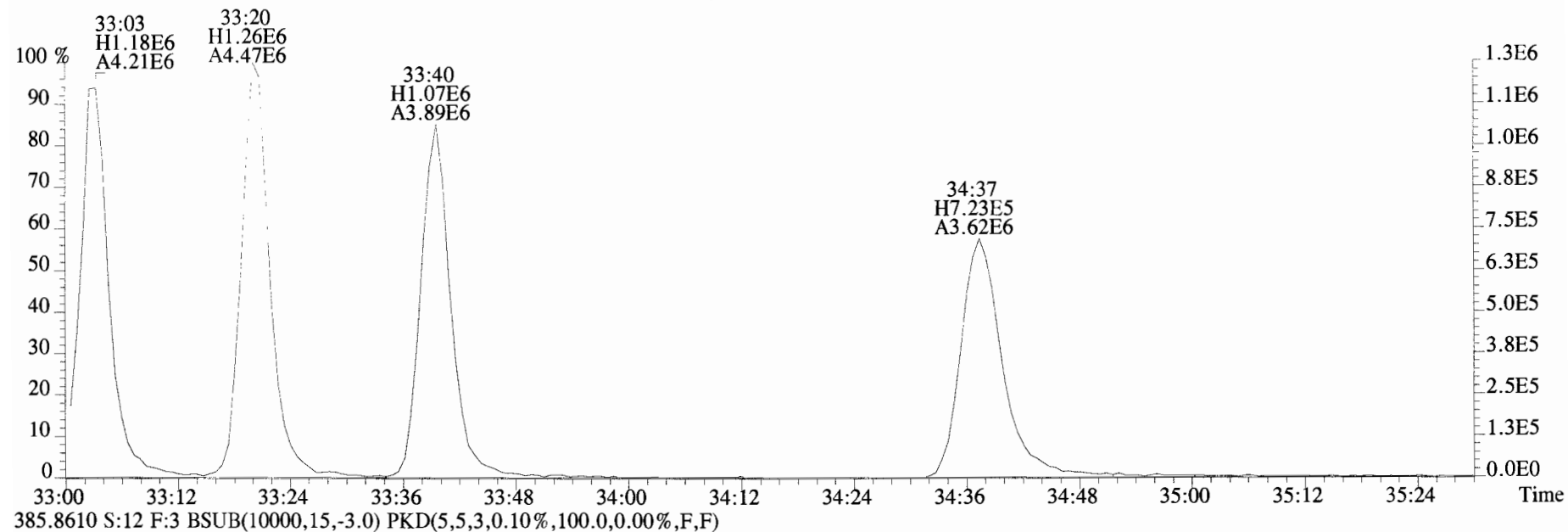
375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



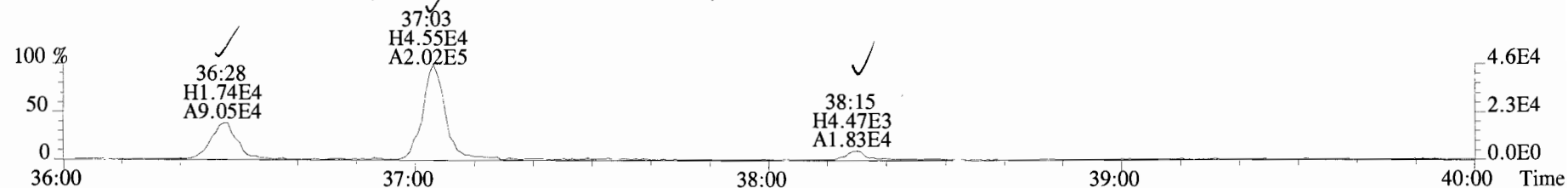
383.8639 S:12 F:3



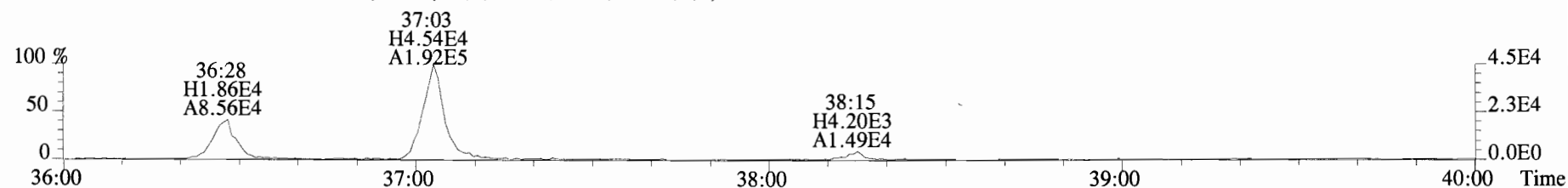
File:190627D1 #1-400 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



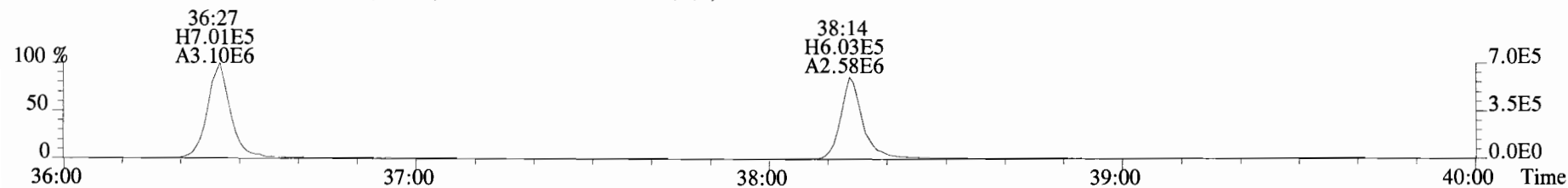
File:190627D1 #1-356 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
 407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



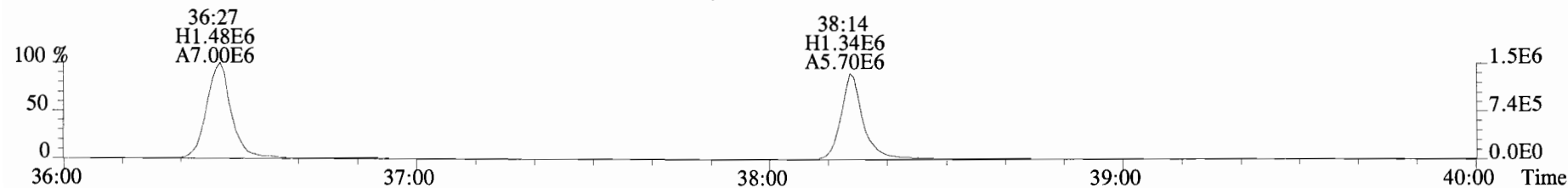
409.7788 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



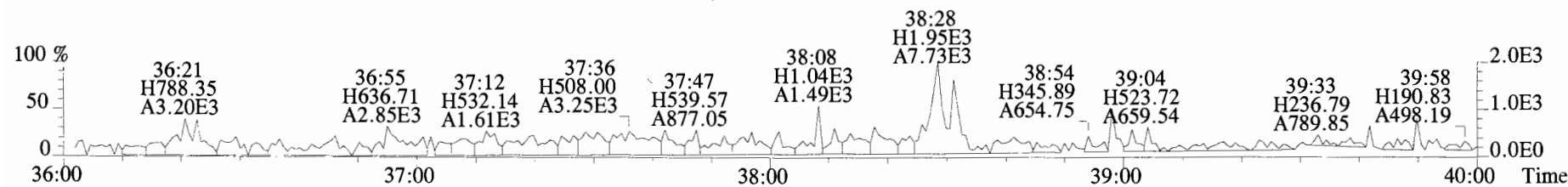
417.8253 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



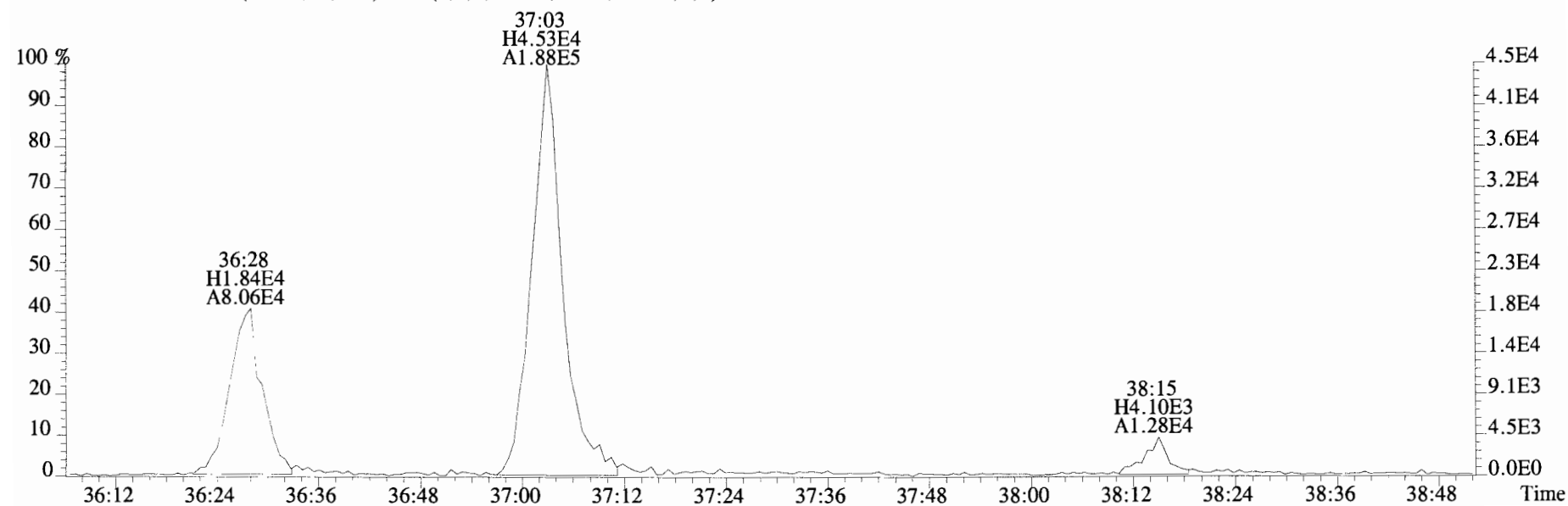
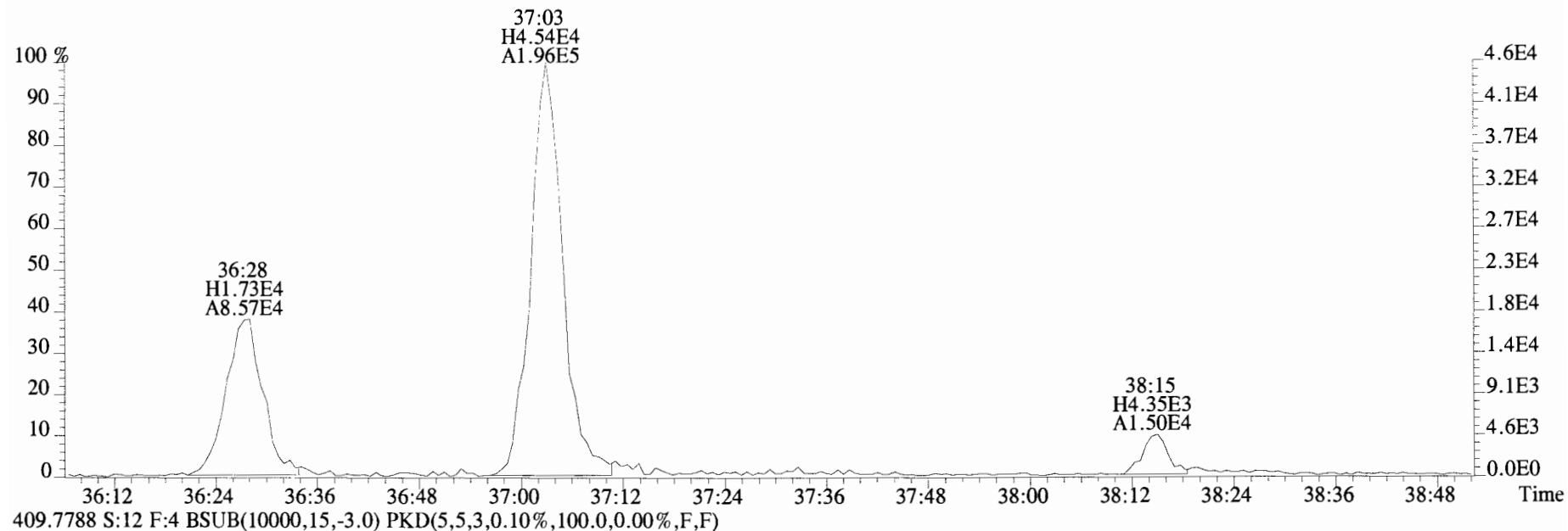
419.8220 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



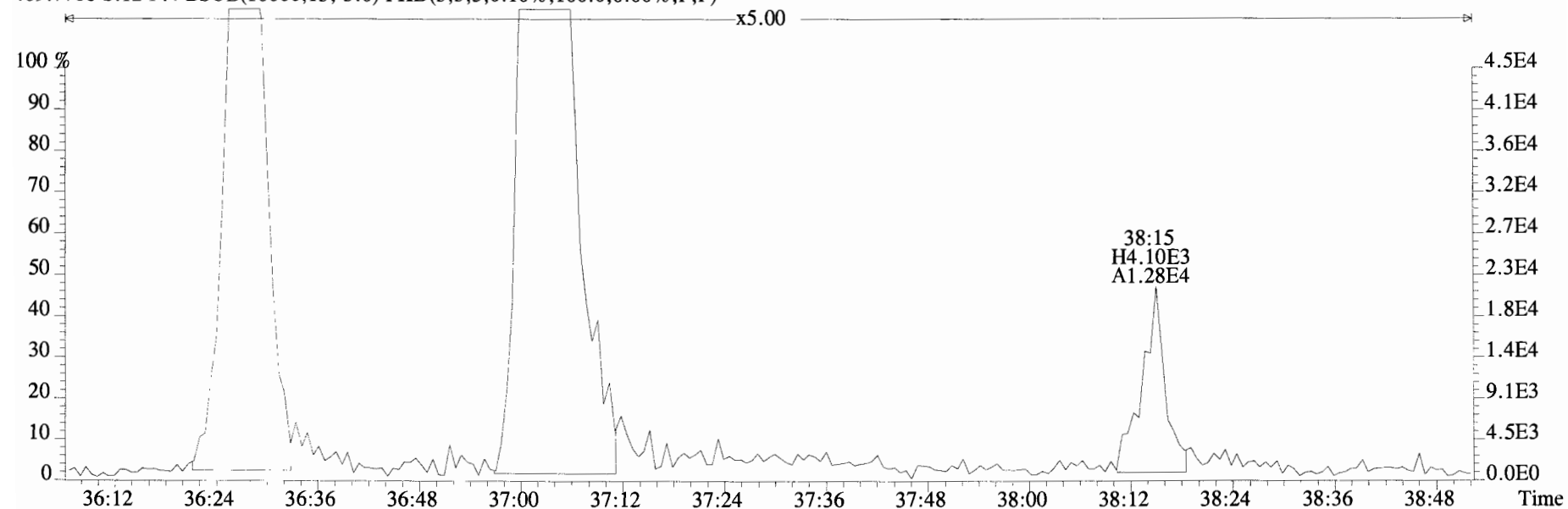
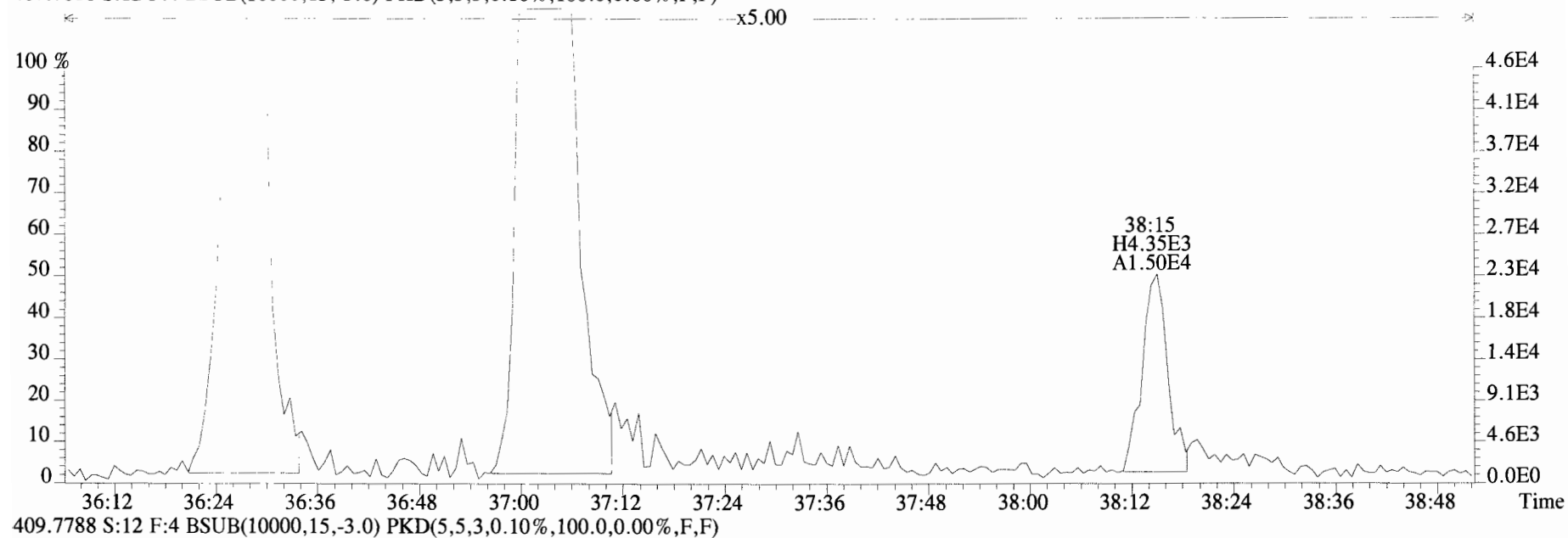
479.7165 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



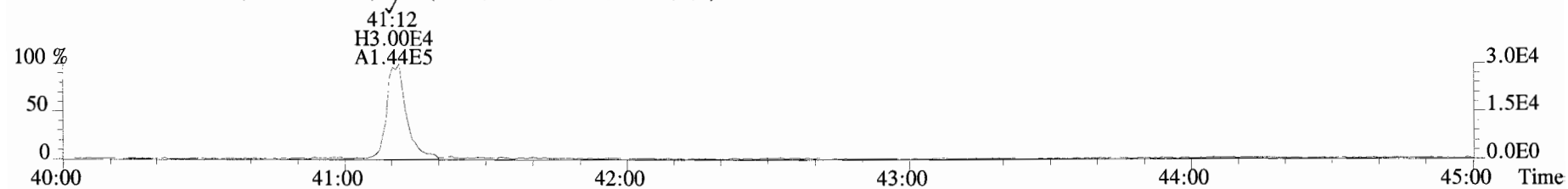
File:190627D1 #1-356 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



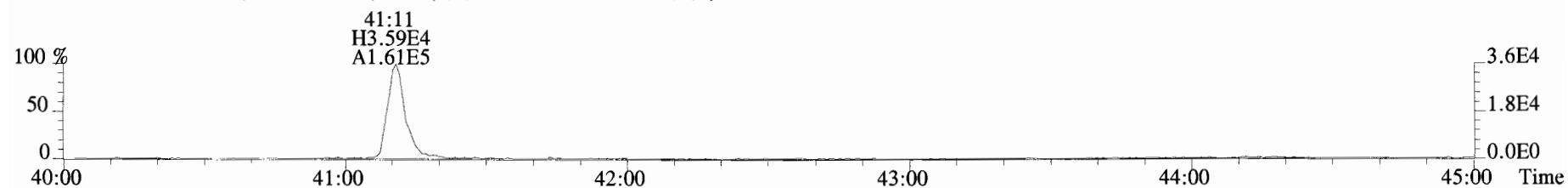
File:190627D1 #1-356 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
407.7818 S:12 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



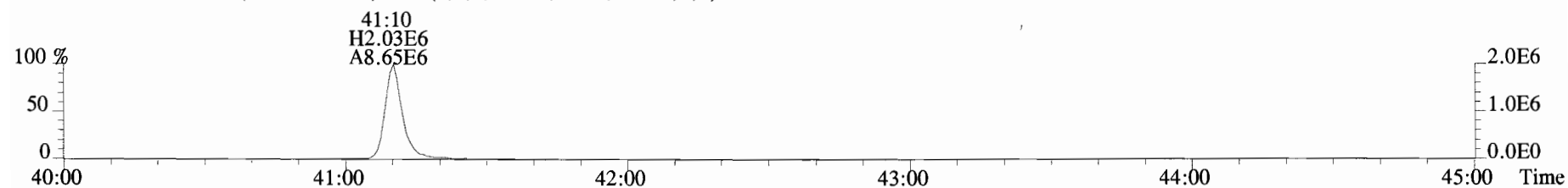
File:190627D1 #1-431 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory_VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
441.7428 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



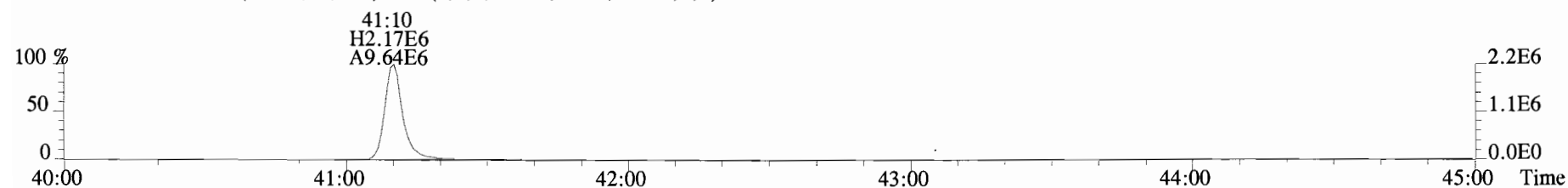
443.7398 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



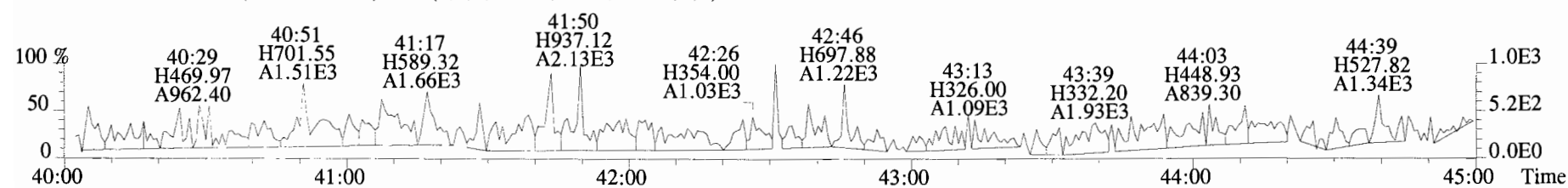
453.7831 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



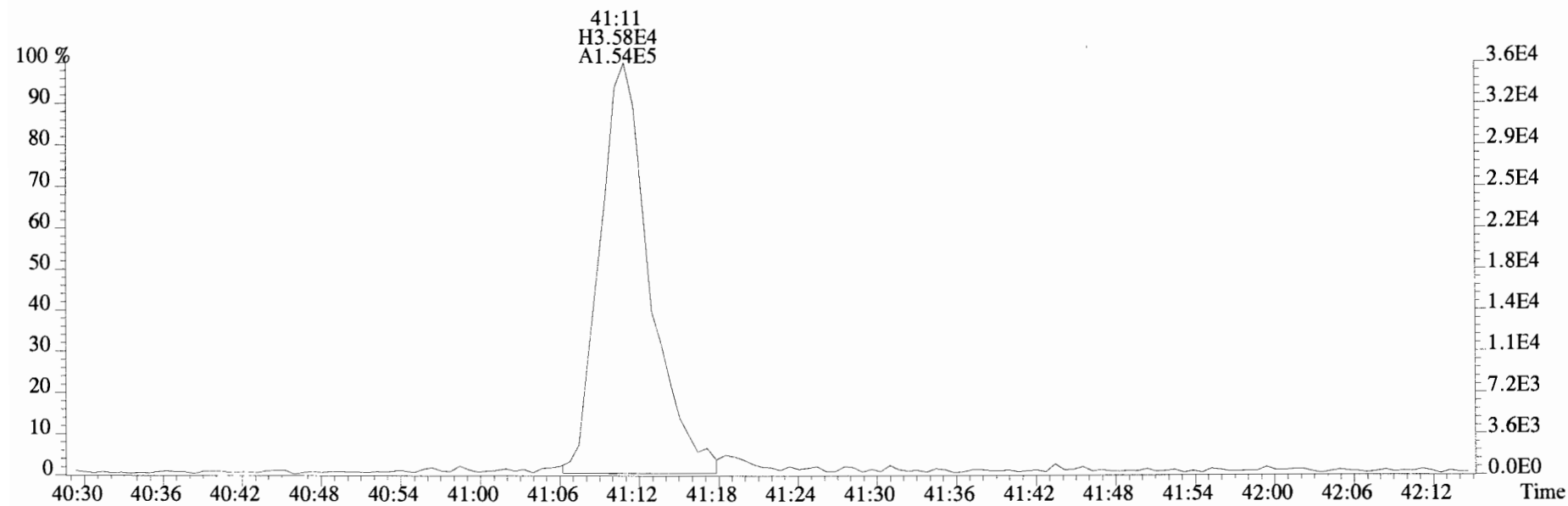
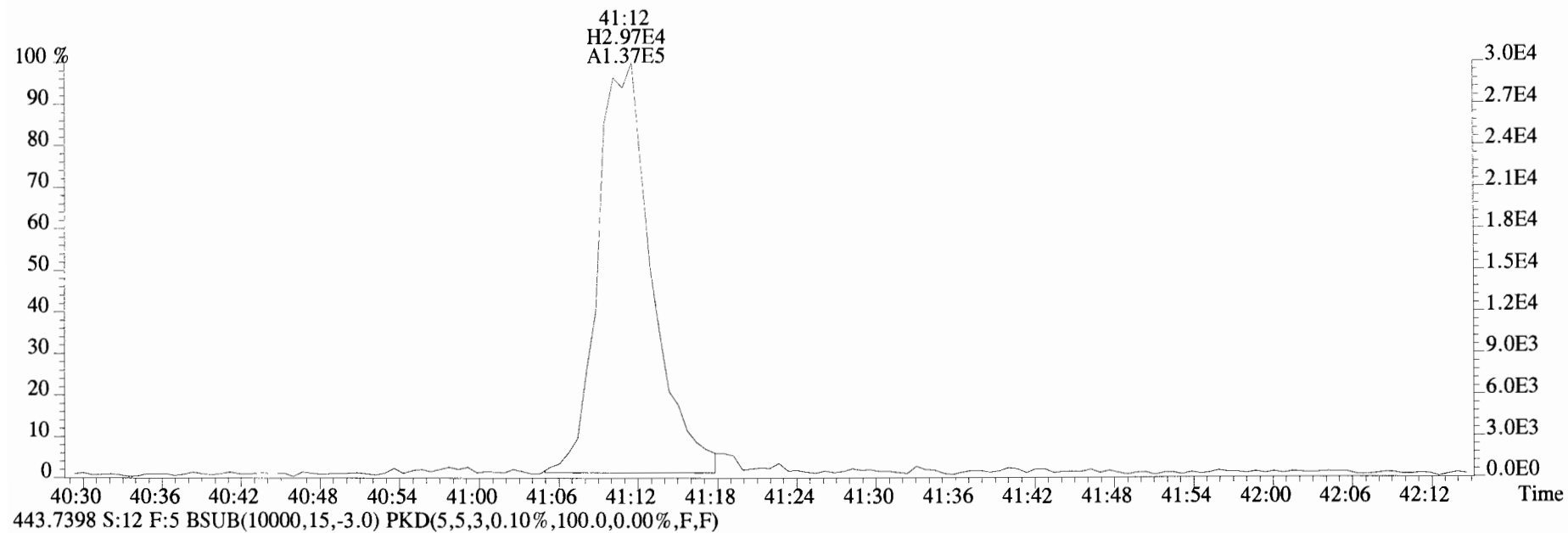
455.7801 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190627D1 #1-431 Acq:28-JUN-2019 01:42:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-06 T4-PDI2019-SC13-190521-01-03 8.87 Exp:OCDD_DB5
441.7428 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC13-1905217 Filename: 190627D1 S:13 Acq:28-JUN-19 02:29:58
Lab ID: 1901246-07 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.000

ConCal: ST190627D1-1
EndCAL: NA

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	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	1.14e+04	0.68 y	0.90	26:04	0.85767		* 2.5		*
	1,2,3,7,8-PeCDD	2.44e+04	0.43 n	0.87	30:32	1.4915		* 2.5		*
	1,2,3,4,7,8-HxCDD	6.15e+04	1.10 y	1.05	33:50	3.0298		* 2.5		*
	1,2,3,6,7,8-HxCDD	4.38e+05	1.27 y	0.93	33:56	19.491		* 2.5		*
	1,2,3,7,8,9-HxCDD	1.81e+05	1.19 y	0.96	34:14	7.4129		* 2.5		*
	1,2,3,4,6,7,8-HpCDD	8.80e+06	1.04 y	0.99	37:41	371.96		* 2.5		*
	OCDD	7.01e+07	0.90 y	0.99	40:57	3436.0		* 2.5		*
	2,3,7,8-TCDF	4.65e+04	0.83 y	0.94	25:18	2.8250		* 2.5		*
	1,2,3,7,8-PeCDF	1.06e+05	1.78 y	0.92	29:22	4.3352		* 2.5		*
	2,3,4,7,8-PeCDF	6.96e+04	1.77 y	0.96	30:15	2.9555		* 2.5		*
	1,2,3,4,7,8-HxCDF	2.97e+05	1.19 y	1.15	32:57	10.447		* 2.5		*
	1,2,3,6,7,8-HxCDF	1.33e+05	1.27 y	1.04	33:04	4.1727		* 2.5		*
	2,3,4,6,7,8-HxCDF	1.09e+05	1.23 y	1.10	33:40	3.3495		* 2.5		*
	1,2,3,7,8,9-HxCDF	2.99e+04	1.15 y	1.03	34:38	1.0306		* 2.5		*
	1,2,3,4,6,7,8-HpCDF	1.29e+06	1.07 y	1.06	36:27	46.173		* 2.5		*
	1,2,3,4,7,8,9-HpCDF	1.05e+05	0.99 y	1.23	38:14	3.9655		* 2.5		*
	OCDF	2.56e+06	0.89 y	0.94	41:11	109.37		* 2.5		*
IS	13C-2,3,7,8-TCDD	5.89e+06	0.77 y	1.11	26:03	187.98				
IS	13C-1,2,3,7,8-PeCDD	7.49e+06	0.64 y	0.98	30:31	270.82				
IS	13C-1,2,3,4,7,8-HxCDD	7.73e+06	1.28 y	0.68	33:49	337.82				
IS	13C-1,2,3,6,7,8-HxCDD	9.67e+06	1.30 y	0.84	33:55	339.15				
IS	13C-1,2,3,7,8,9-HxCDD	1.02e+07	1.29 y	0.81	34:14	369.90				
IS	13C-1,2,3,4,6,7,8-HpCDD	9.57e+06	1.07 y	0.69	37:41	411.71				
IS	13C-OCDD	1.66e+07	0.92 y	0.62	40:56	781.78				
IS	13C-2,3,7,8-TCDF	6.99e+06	0.80 y	1.05	25:18	140.02				
IS	13C-1,2,3,7,8-PeCDF	1.06e+07	1.63 y	0.95	29:22	234.20				
IS	13C-2,3,4,7,8-HxCDF	9.83e+06	1.63 y	0.94	30:15	221.63				
IS	13C-1,2,3,4,7,8-HxCDF	9.87e+06	0.52 y	0.86	32:56	339.99				
IS	13C-1,2,3,6,7,8-HxCDF	1.23e+07	0.52 y	1.02	33:03	354.15				
IS	13C-2,3,4,6,7,8-HxCDF	1.19e+07	0.51 y	0.95	33:40	369.17				
IS	13C-1,2,3,7,8,9-HxCDF	1.13e+07	0.51 y	0.87	34:38	383.66				
IS	13C-1,2,3,4,6,7,8-HpCDF	1.05e+07	0.46 y	0.81	36:27	384.01				
IS	13C-1,2,3,4,7,8,9-HpCDF	8.65e+06	0.47 y	0.63	38:14	403.80				
IS	13C-OCDF	2.00e+07	0.87 y	0.78	41:10	752.73				
C/Up	37Cl-2,3,7,8-TCDD	2.00e+06		1.22	26:04	57.898				
RS/RT	13C-1,2,3,4-TCDD	1.13e+07	0.77 y	1.00	25:29	400.03				
RS	13C-1,2,3,4-TCDF	1.90e+07	0.82 y	1.00	24:04	400.03				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.36e+07	0.52 y	1.00	33:21	400.03				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	2.65	4.77		*	*
Total Penta-Dioxins	8.78	13.1		*	*
Total Hexa-Dioxins	116	118		*	*
Total Hepta-Dioxins	798	798		*	*
Total Tetra-Furans	17.9	18.5		*	*
Total Penta-Furans	39.265	42.366		*	*
Total Hexa-Furans	92.4	93.2		*	*
Total Hepta-Furans	151	151		*	*

Rec Qual

47.0
67.7
84.4
84.8
92.5
103
97.7
35.0
58.5
55.4
85.0
88.5
92.3
95.9
96.0
101
94.1

Integrations
by
Analyst: DB

Reviewed
by
Analyst: CT

Date: 7/30/19

Date: 08/02/19

Totals class: TCDD EMPC

Entry #: 19

Run: 18

File: 190627D1

S: 13 I: 1 F: 1

Acquired: 28-JUN-19 02:29:58

Processed: 28-JUN-19 08:58:14

Total Concentration: 4.7703

Unnamed Concentration: 3.913

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
22:41	1.050e+04	1.323e+04	0.79	y	2.373e+04	1.7885
23:03	5.881e+03	5.757e+03	1.02	n	1.019e+04	0.76799
24:36	4.877e+03	5.045e+03	0.97	n	8.930e+03	0.67303
25:50	3.943e+03	6.777e+03	0.58	n	9.064e+03	0.68315
26:04	4.588e+03	6.792e+03	0.68	y	1.138e+04	0.85767 2,3,7,8-TCDD

Totals class: PeCDD EMPC

Entry #: 21

Run: 18

File: 190627D1

S: 13 I: 1 F: 2

Acquired: 28-JUN-19 02:29:58

Processed: 28-JUN-19 08:58:14

Total Concentration: 13.067

Unnamed Concentration: 11.576

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:28	2.563e+04	3.860e+04	0.66 y	6.423e+04	3.9331
28:56	6.383e+03	9.188e+03	0.69 y	1.557e+04	0.95353
29:22	1.426e+04	1.677e+04	0.85 n	2.733e+04	1.6736
29:32	1.237e+04	1.733e+04	0.71 y	2.970e+04	1.8185
29:37	9.227e+03	1.119e+04	0.82 n	1.824e+04	1.1172
29:50	1.324e+04	2.072e+04	0.64 y	3.396e+04	2.0796
30:32	9.414e+03	2.200e+04	0.43 n	2.436e+04	1.4915

1,2,3,7,8-PeCDD

Totals class: HxCDD EMPC

Entry #: 23

Run: 18 File: 190627D1 S: 13 I: 1 F: 3
Acquired: 28-JUN-19 02:29:58 Processed: 28-JUN-19 08:58:14

Total Concentration: 118.21

Unnamed Concentration: 88.275

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
32:18	4.335e+05	3.407e+05	1.27	y	7.742e+05	34.525
32:51	4.137e+04	3.862e+04	1.07	y	8.000e+04	3.5673
33:07	5.696e+05	4.775e+05	1.19	y	1.047e+06	46.696
33:14	3.073e+04	1.883e+04	1.63	n	4.218e+04	1.8809
33:50	3.224e+04	2.923e+04	1.10	y	6.147e+04	3.0298
33:56	2.447e+05	1.934e+05	1.27	y	4.381e+05	19.491
34:07	2.006e+04	1.596e+04	1.26	y	3.602e+04	1.6064
34:14	9.870e+04	8.275e+04	1.19	y	1.814e+05	7.4129

Totals class: HpCDD EMPC

Entry #: 25

Run: 18

File: 190627D1

S: 13 I: 1 F: 4

Acquired: 28-JUN-19 02:29:58

Processed: 28-JUN-19 08:58:14

Total Concentration: 798.03

Unnamed Concentration: 426.069

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:50	5.108e+06	4.967e+06	1.03 y	1.007e+07	426.07
37:41	4.476e+06	4.320e+06	1.04 y	8.795e+06	371.96

1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC

Entry #: 27

Run: 18 File: 190627D1 S: 13 I: 1 F: 1

Acquired: 28-JUN-19 02:29:58 Processed: 28-JUN-19 08:58:14

Total Concentration: 18.456

Unnamed Concentration: 15.631

RT	m1 Resp	m2 Resp	RA		Resp Concentration		Name
21:49	1.973e+04	2.472e+04	0.80	y	4.445e+04	2.7004	
22:41	1.880e+04	2.461e+04	0.76	y	4.341e+04	2.6368	
23:05	1.079e+04	1.313e+04	0.82	y	2.392e+04	1.4528	
23:12	5.898e+03	7.763e+03	0.76	y	1.366e+04	0.82982	
23:24	4.354e+03	5.735e+03	0.76	y	1.009e+04	0.61282	
24:04	1.370e+04	1.554e+04	0.88	y	2.924e+04	1.7763	
24:31	2.351e+04	2.668e+04	0.88	y	5.019e+04	3.0486	
25:13	6.667e+03	5.162e+03	1.29	n	9.137e+03	0.55502	
25:18	2.110e+04	2.540e+04	0.83	y	4.651e+04	2.8250	2,3,7,8-TCDF
25:38	8.331e+03	1.241e+04	0.67	y	2.074e+04	1.2599	
27:02	5.849e+03	6.644e+03	0.88	y	1.249e+04	0.75884	

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 18 File: 190627D1 S: 13 I: 1 F: 1
Acquired: 28-JUN-19 02:29:58 Processed: 28-JUN-19 08:58:14

Total Concentration: 16.405 Unnamed Concentration: 16.405

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:01	2.370e+05	1.567e+05	1.51 y	3.937e+05	16.405

Totals class: PeCDF EMPC

Entry #: 31

Run: 18

File: 190627D1

S: 13 I: 1 F: 2

Acquired: 28-JUN-19 02:29:58

Processed: 28-JUN-19 08:58:14

Total Concentration: 25.961

Unnamed Concentration: 18.670

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
28:19	2.083e+04	1.429e+04	1.46	y	3.513e+04	1.4636
28:27	1.367e+05	8.775e+04	1.56	y	2.244e+05	9.3518
29:00	3.999e+04	2.844e+04	1.41	y	6.843e+04	2.8512
29:10	1.204e+04	1.186e+04	1.01	n	1.980e+04	0.82508
29:22	6.778e+04	3.817e+04	1.78	y	1.059e+05	4.3352
29:35	3.850e+04	2.142e+04	1.80	n	5.462e+04	2.2757
30:15	4.442e+04	2.514e+04	1.77	y	6.957e+04	2.9555
30:19	2.750e+04	1.817e+04	1.51	y	4.567e+04	1.9030

Totals class: HxCDF EMPC

Entry #: 33

Run: 18

File: 190627D1

S: 13 I: 1 F: 3

Acquired: 28-JUN-19 02:29:58

Processed: 28-JUN-19 08:58:14

Total Concentration: 93.156

Unnamed Concentration: 74.156

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
31:45	1.679e+05	1.290e+05	1.30 y	2.969e+05	9.7274
31:55	4.387e+05	3.522e+05	1.25 y	7.909e+05	25.914
32:28	6.250e+05	4.972e+05	1.26 y	1.122e+06	36.769
32:50	1.271e+04	1.251e+04	1.02 n	2.296e+04	0.75238
32:57	1.619e+05	1.355e+05	1.19 y	2.973e+05	10.447
33:04	7.433e+04	5.846e+04	1.27 y	1.328e+05	4.1727
33:40	6.027e+04	4.907e+04	1.23 y	1.093e+05	3.3495
34:38	1.604e+04	1.389e+04	1.15 y	2.992e+04	1.0306
34:41	1.647e+04	1.380e+04	1.19 y	3.028e+04	0.99203

Totals class: HpCDF EMPC

Entry #: 35

Run: 18

File: 190627D1

S: 13 I: 1 F: 4

Acquired: 28-JUN-19 02:29:58

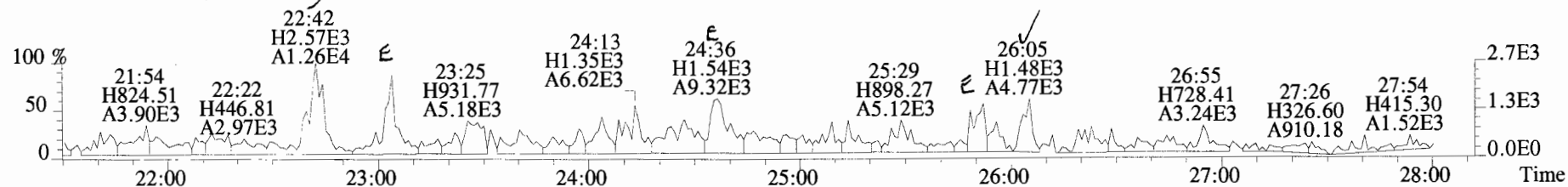
Processed: 28-JUN-19 08:58:14

Total Concentration: 150.92

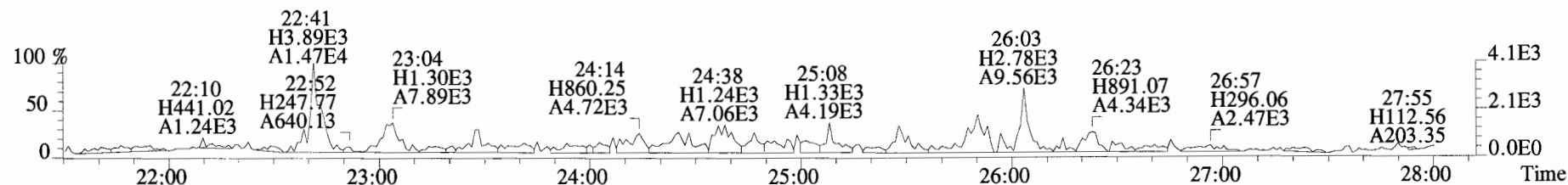
Unnamed Concentration: 100.783

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
36:27	6.685e+05	6.238e+05	1.07 y	1.292e+06	46.173	1,2,3,4,6,7,8-HpCDF
37:02	1.412e+06	1.327e+06	1.06 y	2.739e+06	100.78	
38:14	5.218e+04	5.286e+04	0.99 y	1.050e+05	3.9655	1,2,3,4,7,8,9-HpCDF

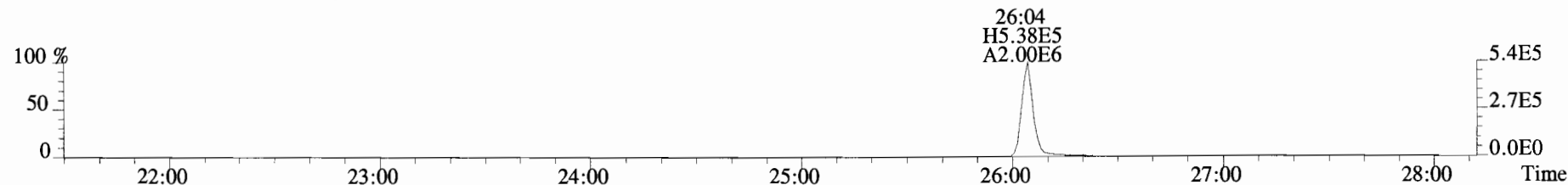
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



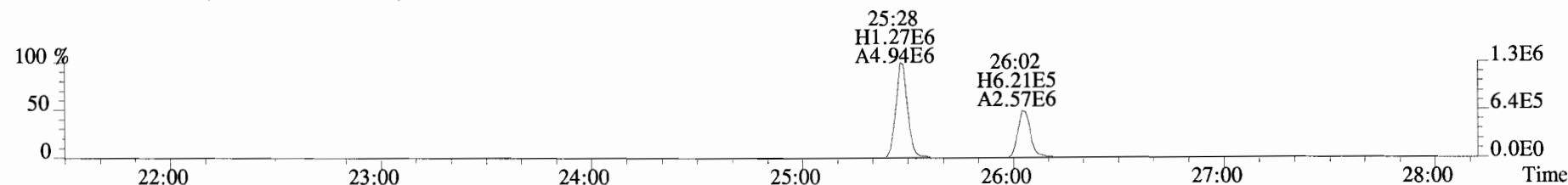
321.8936 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



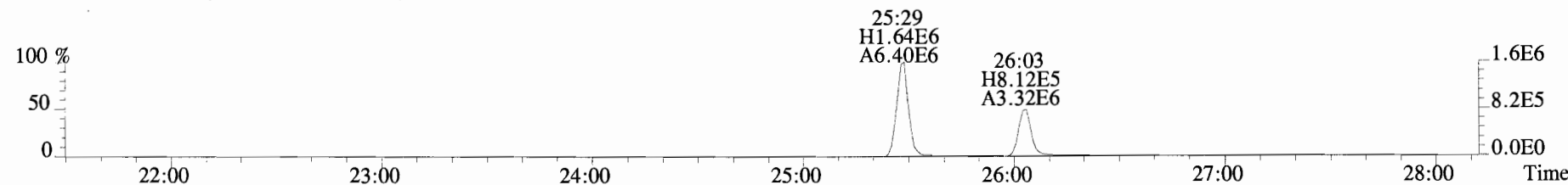
327.8847 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



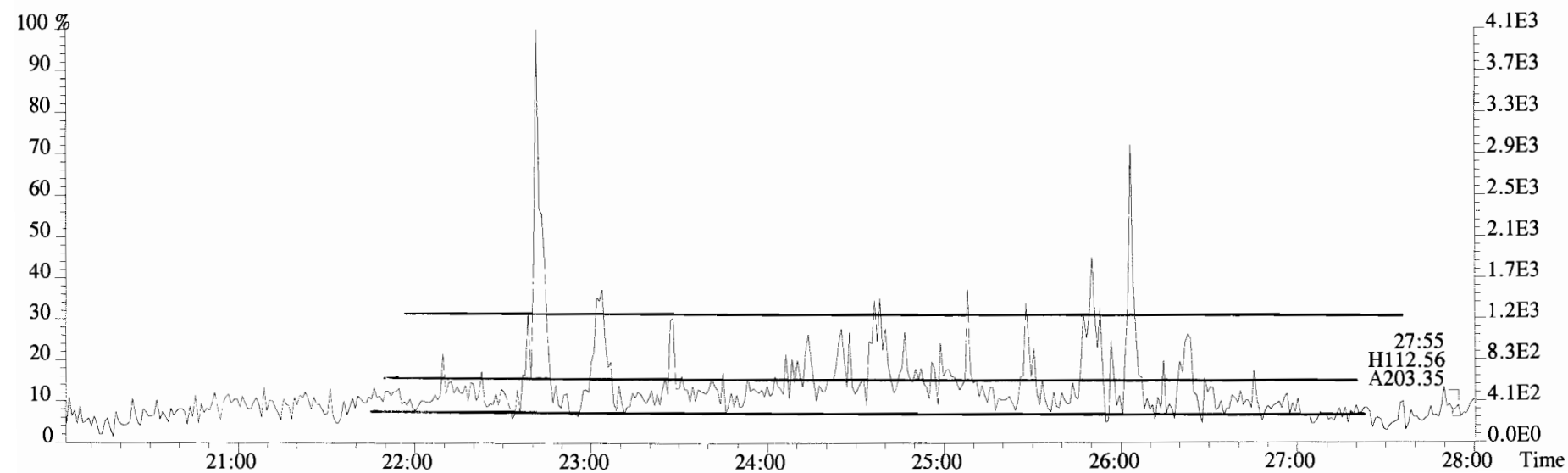
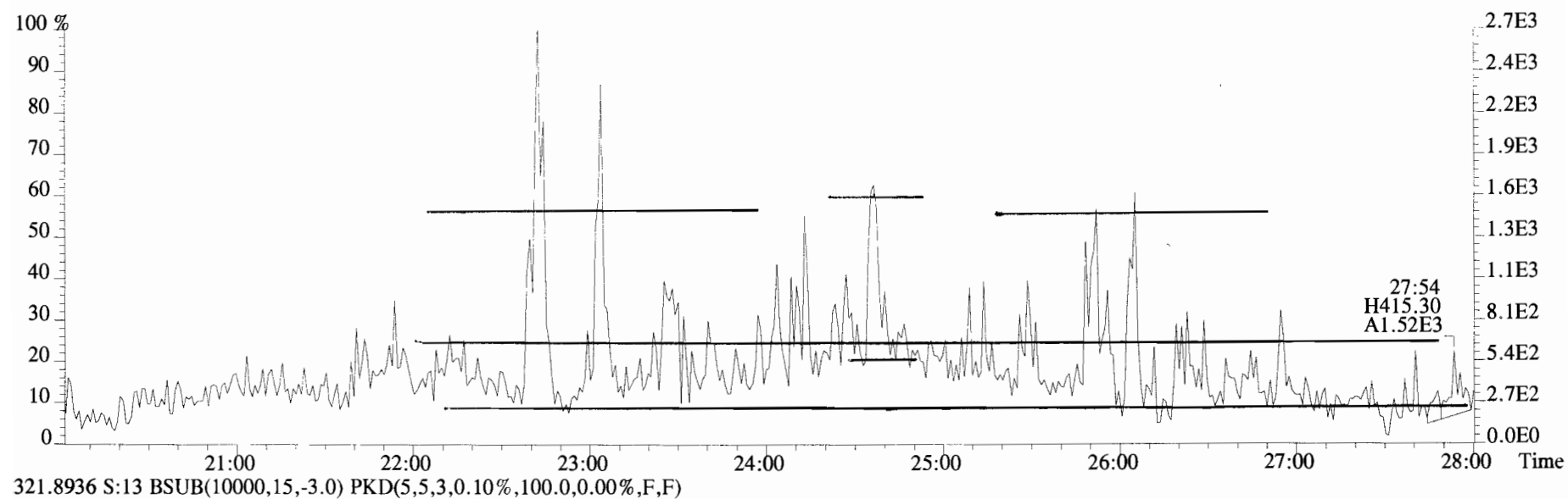
331.9368 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



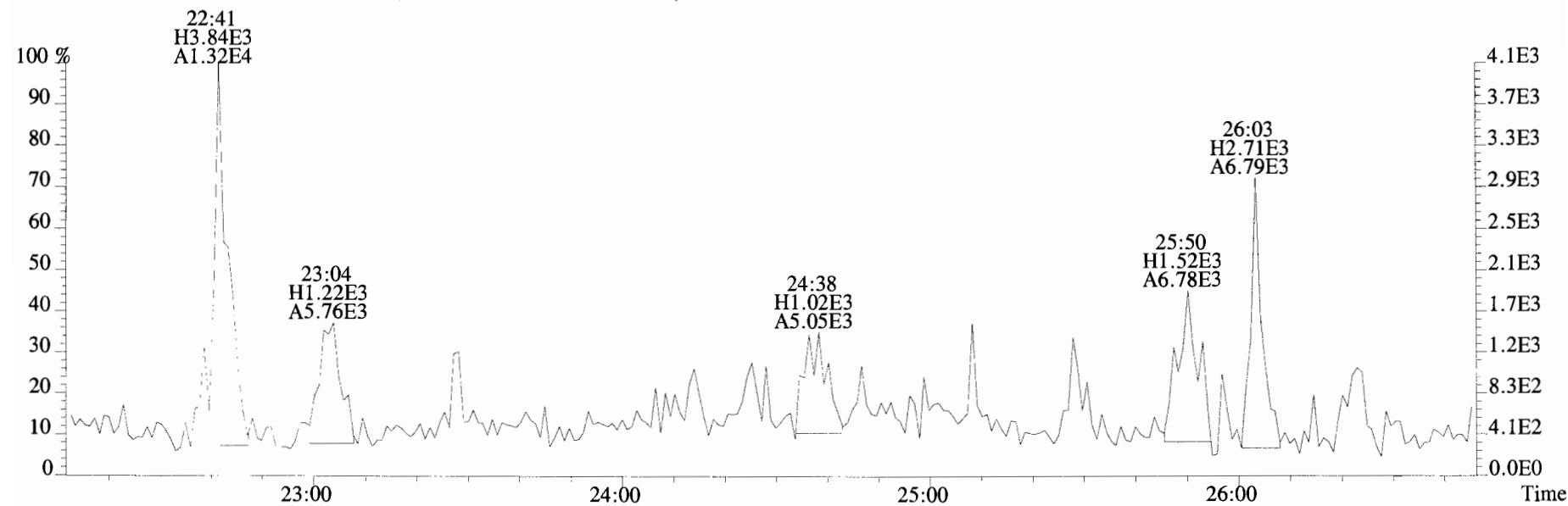
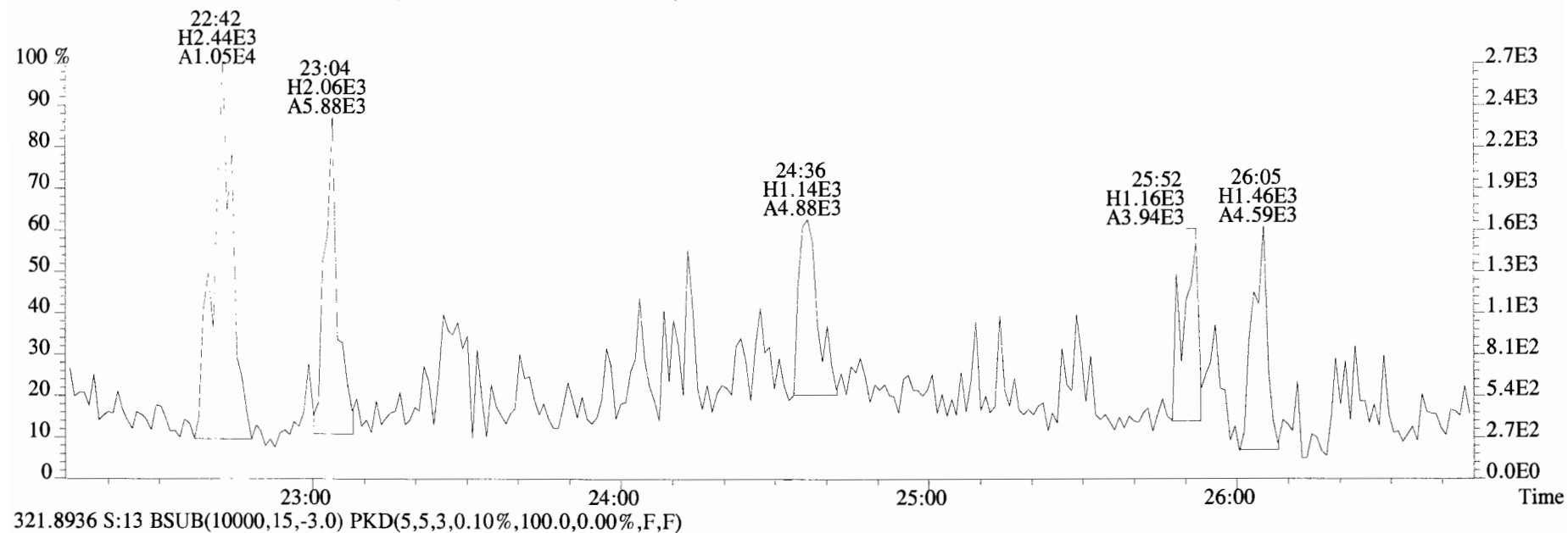
333.9339 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



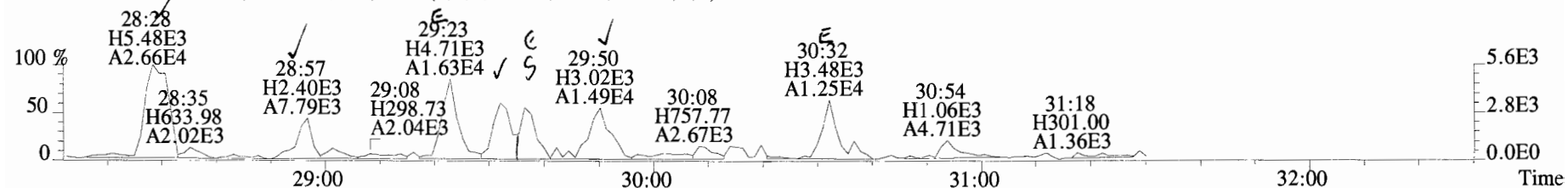
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



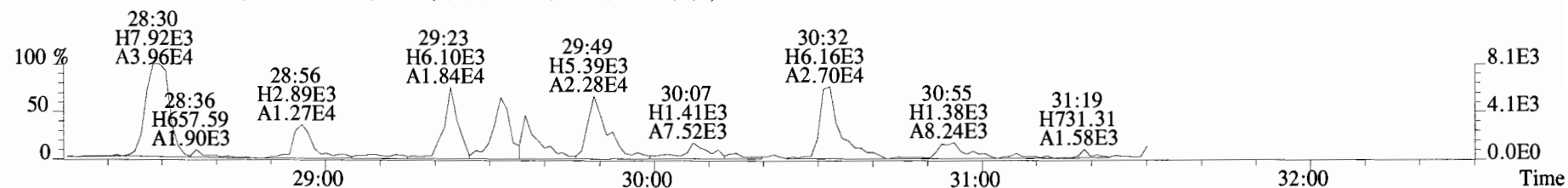
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



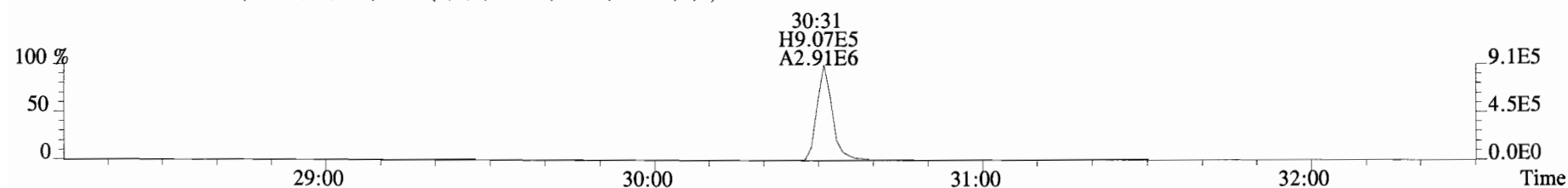
File:190627D1 #1-184 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text: Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



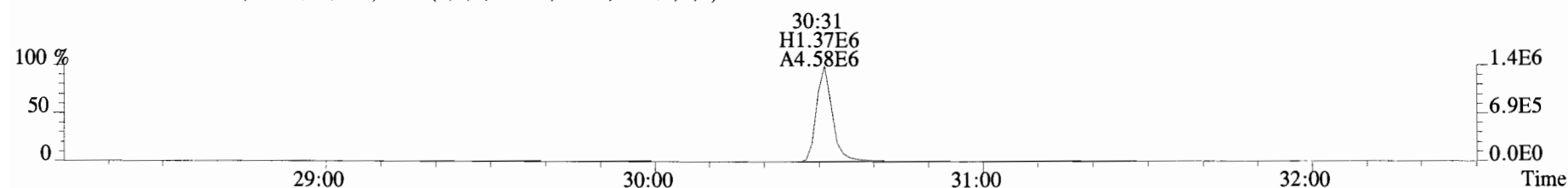
355.8546 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



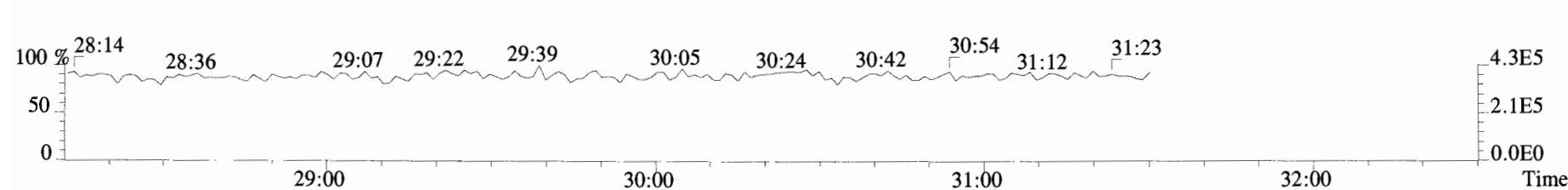
365.8978 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



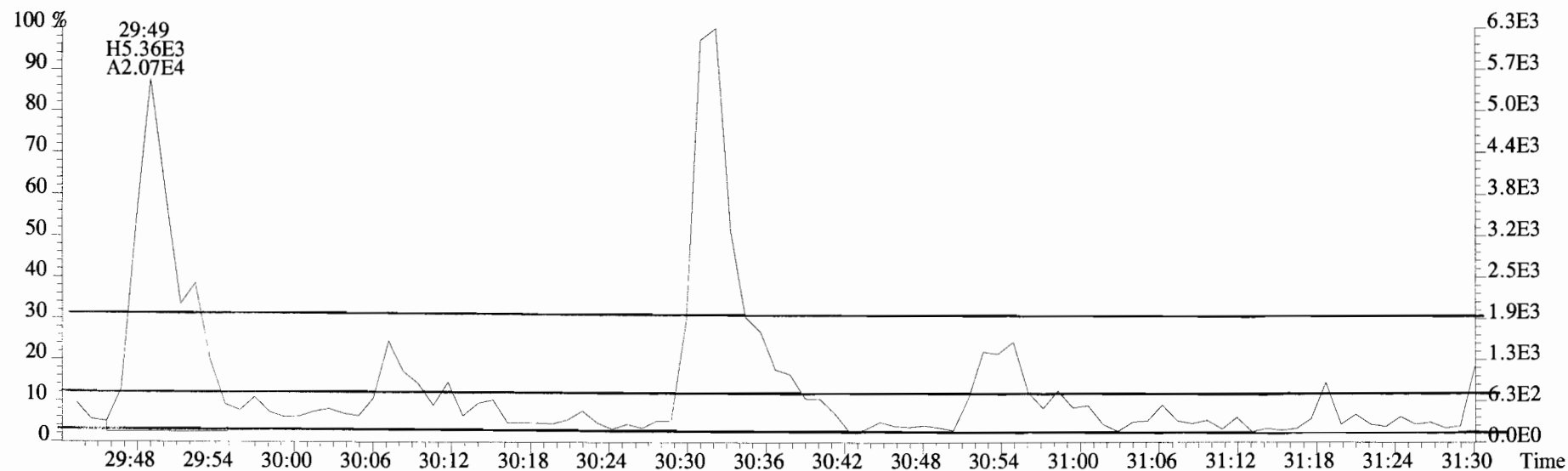
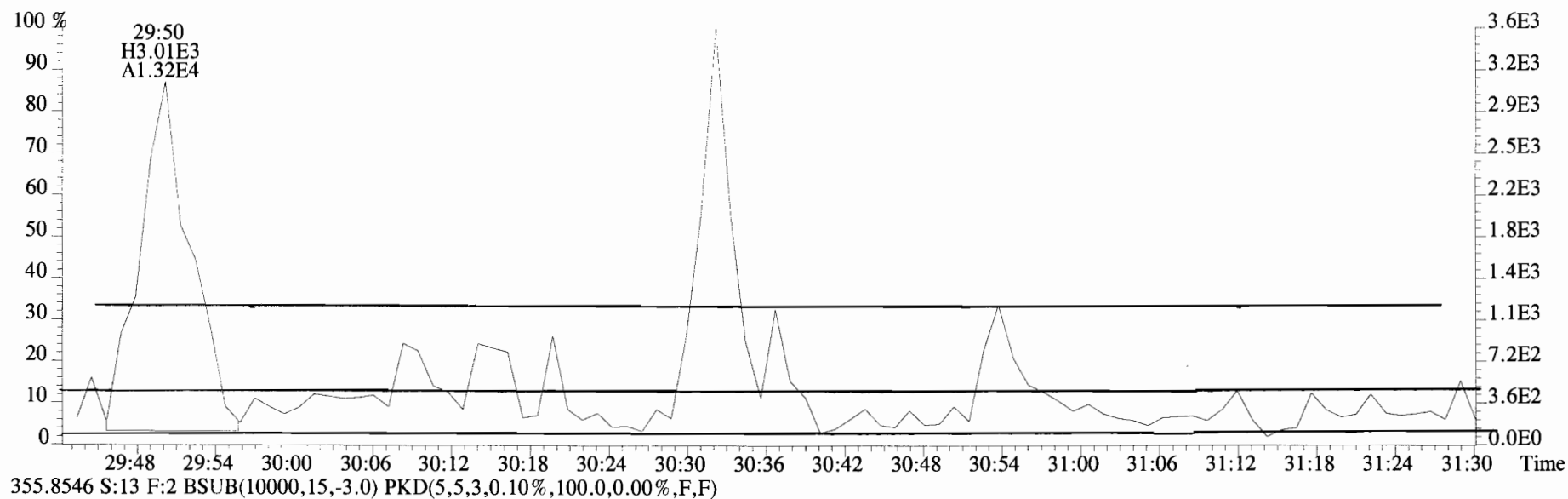
367.8949 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



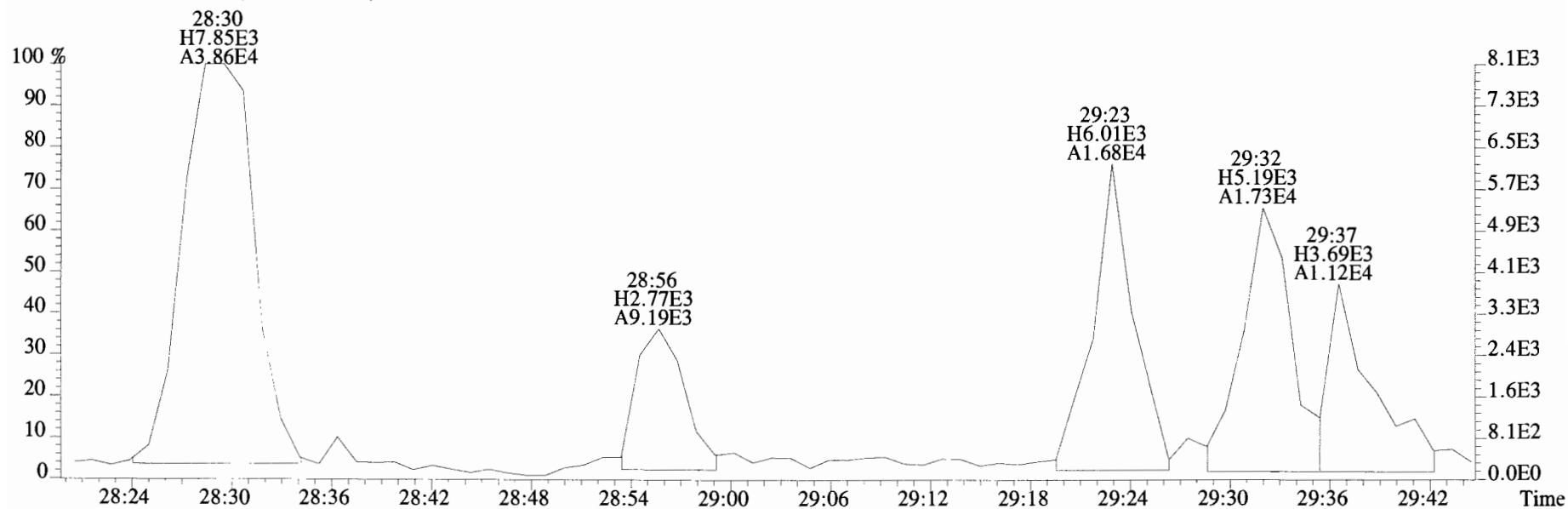
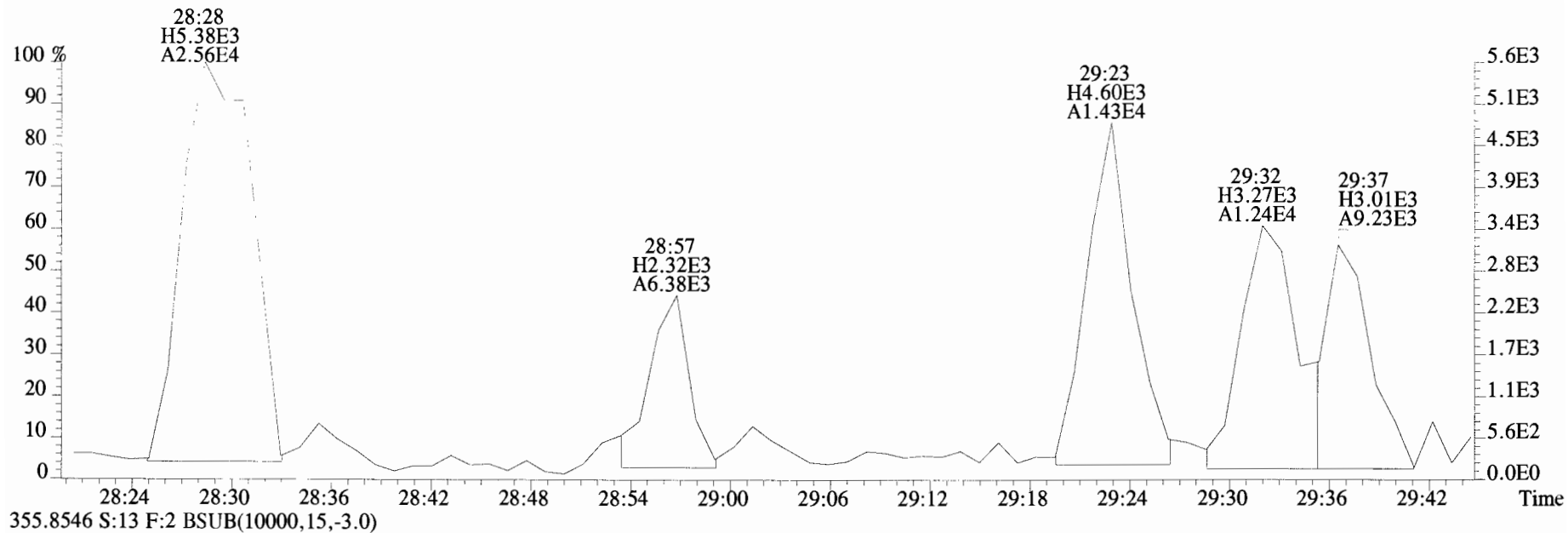
366.9792 S:13 F:2



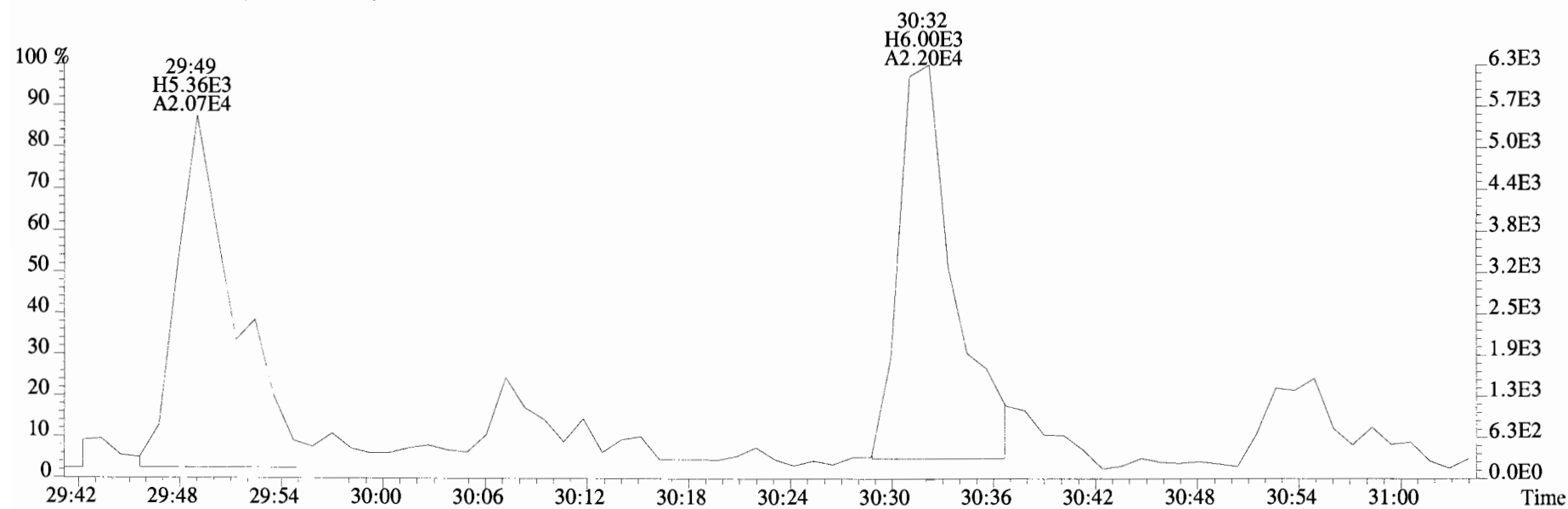
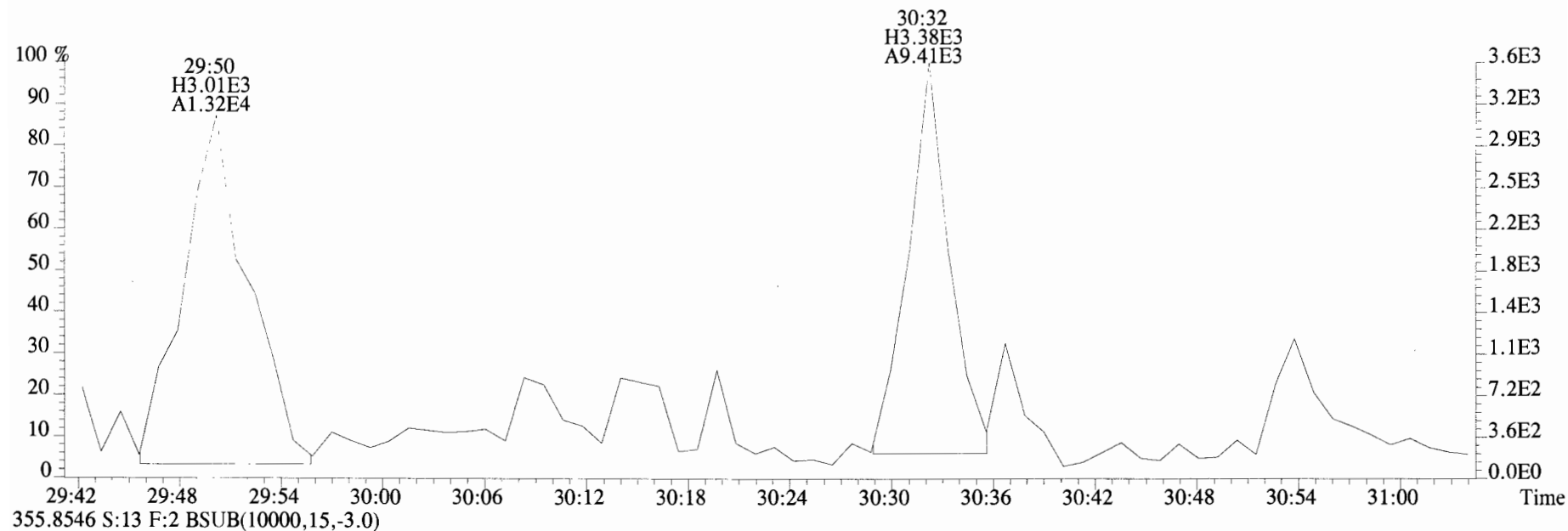
File:190627D1 #1-184 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



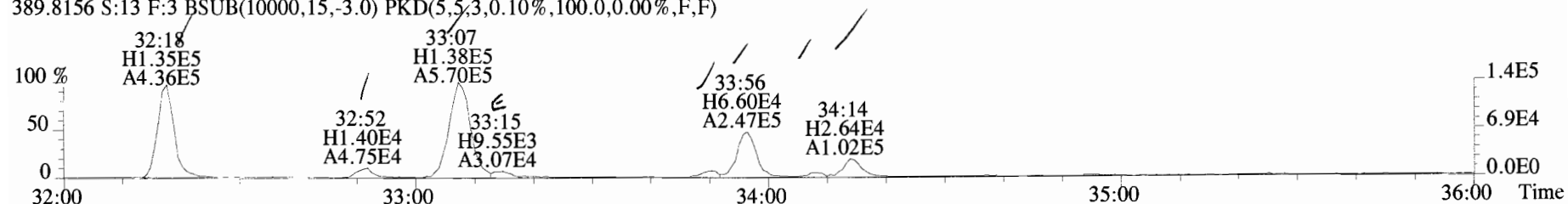
File:190627D1 #1-184 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text: Vista_Analytical_Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 353.8576 S:13 F:2 BSUB(10000,15,-3.0)



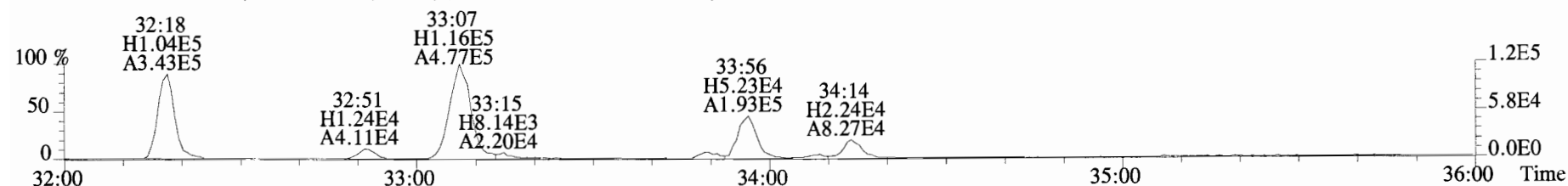
File:190627D1 #1-184 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical_Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
353.8576 S:13 F:2 BSUB(10000,15,-3.0)



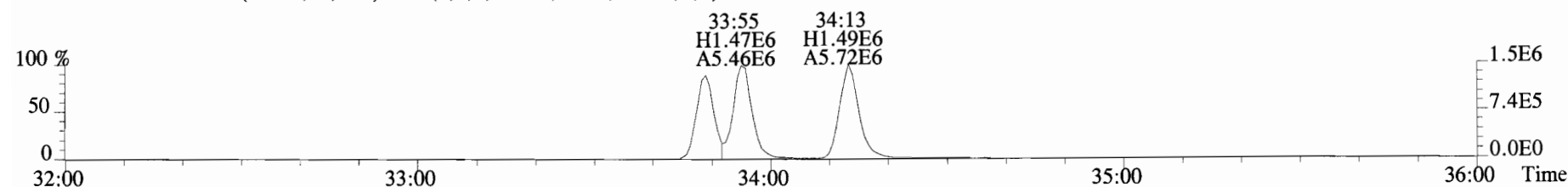
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text: Vista Analytical Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



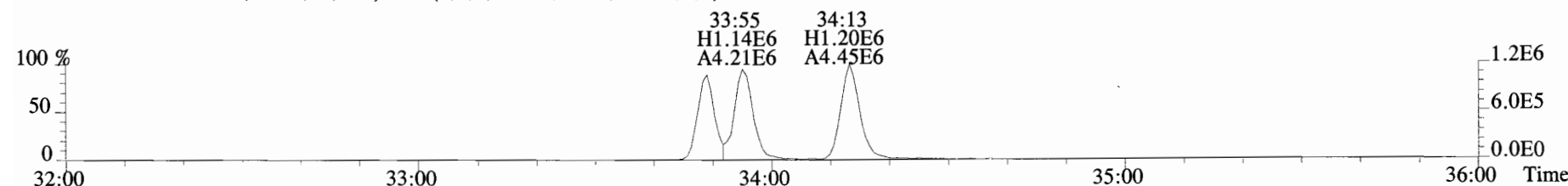
391.8127 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



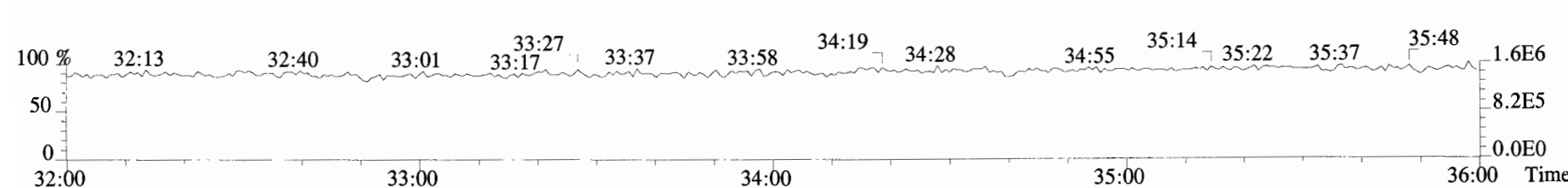
401.8559 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



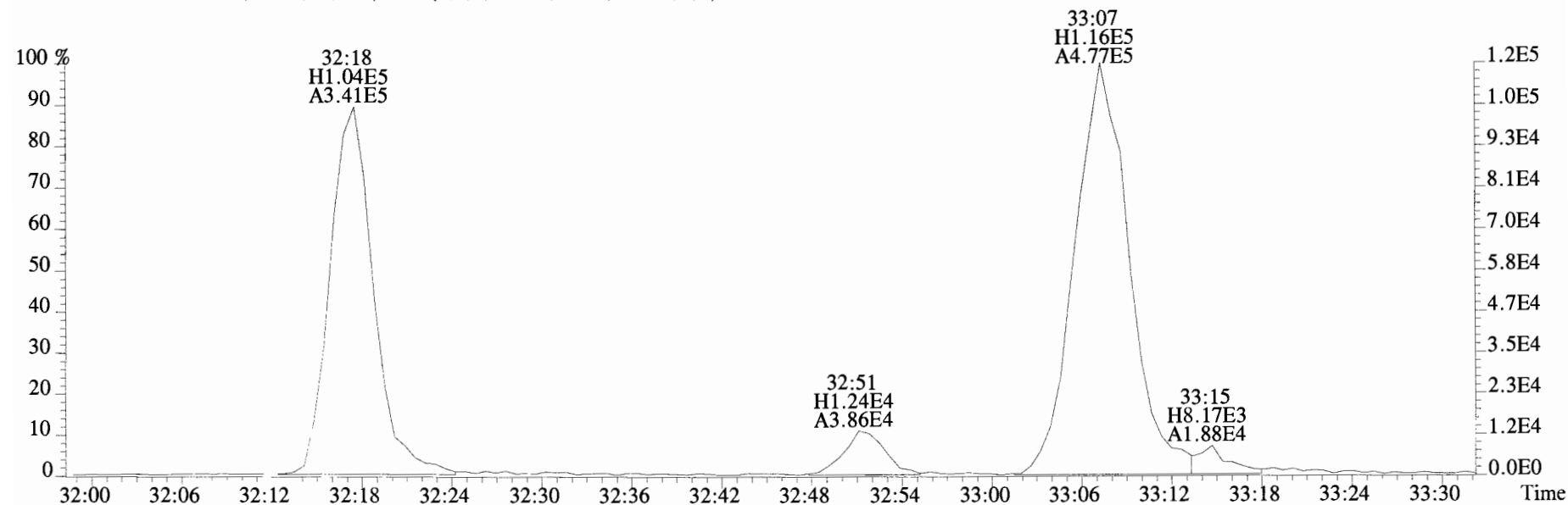
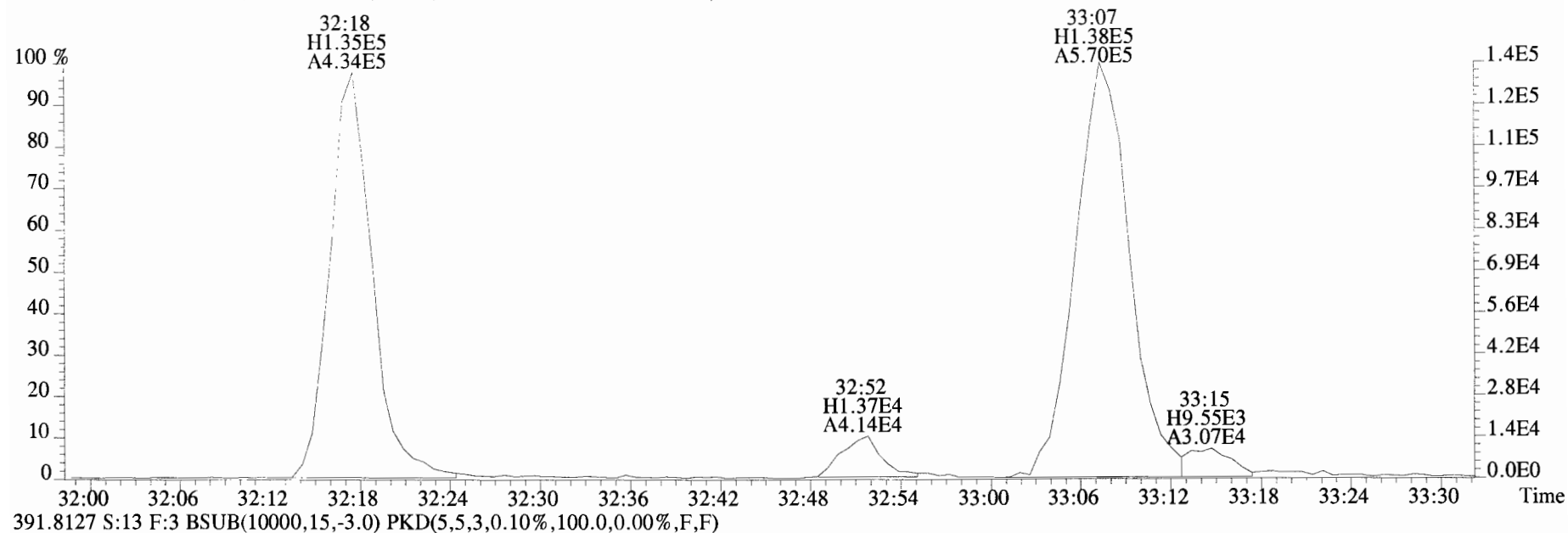
403.8530 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



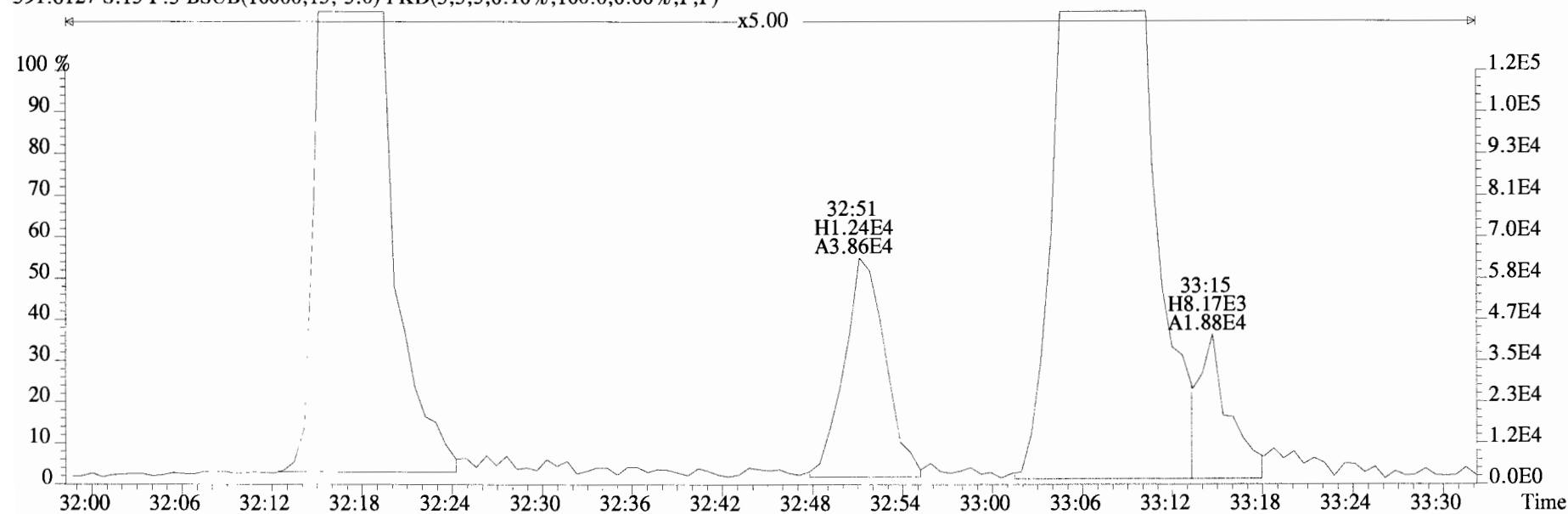
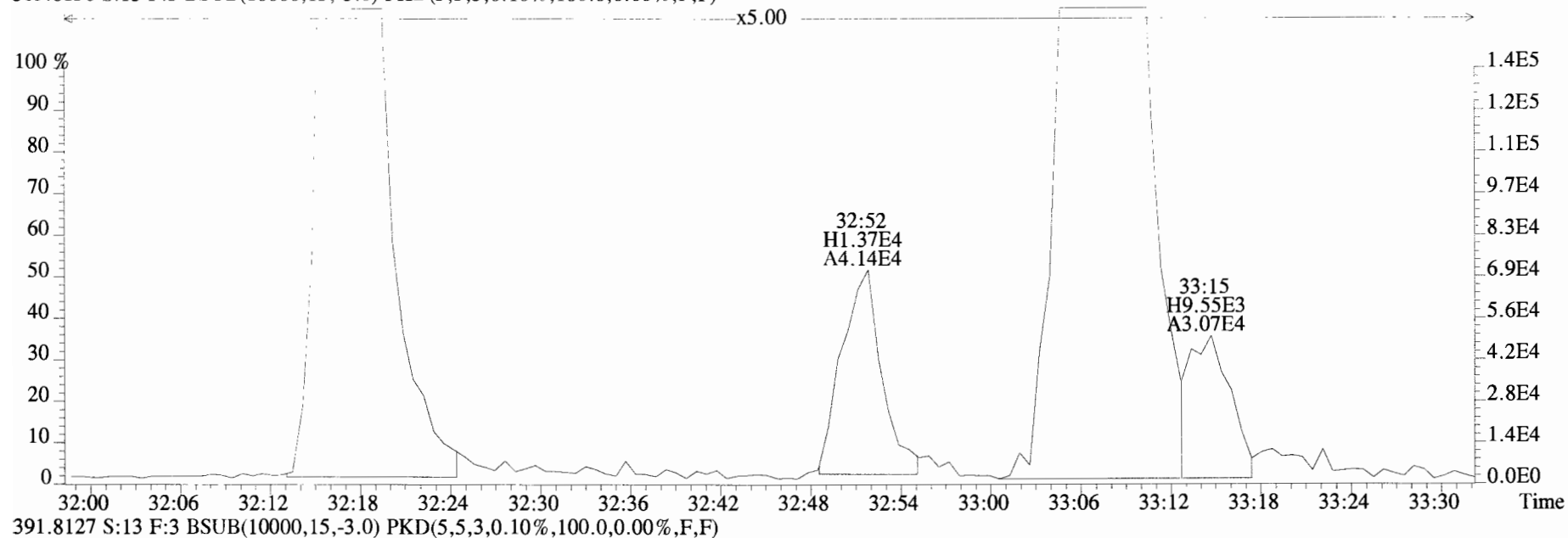
392.9760 S:13 F:3



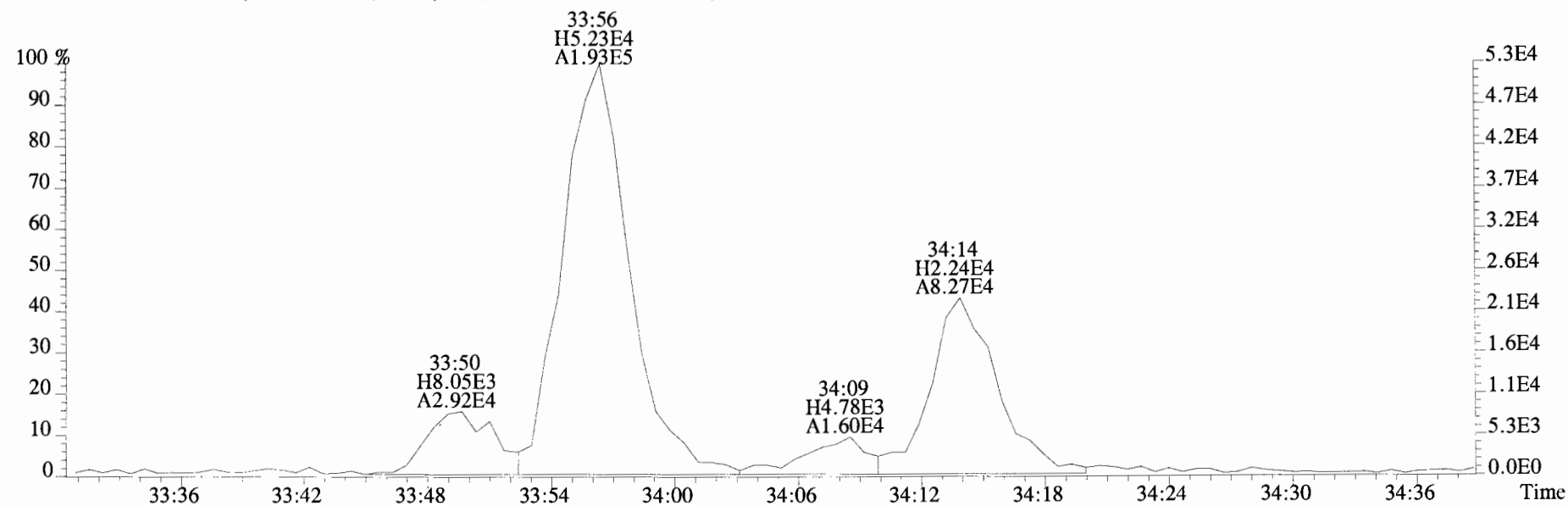
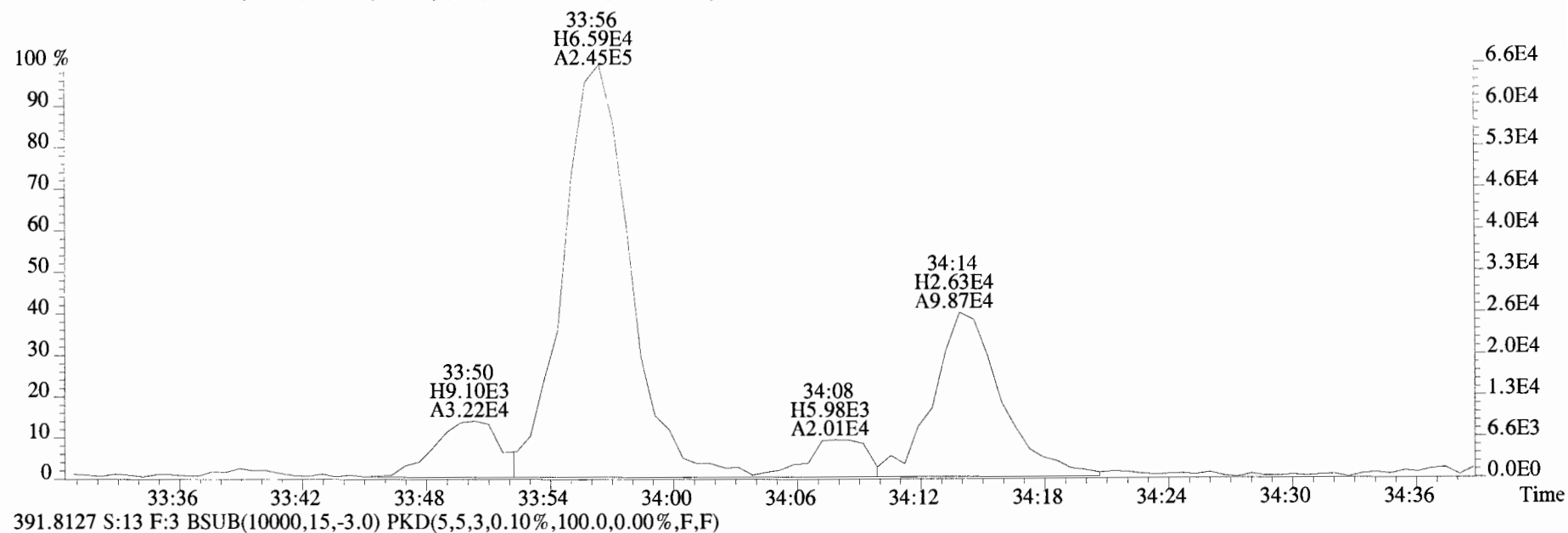
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



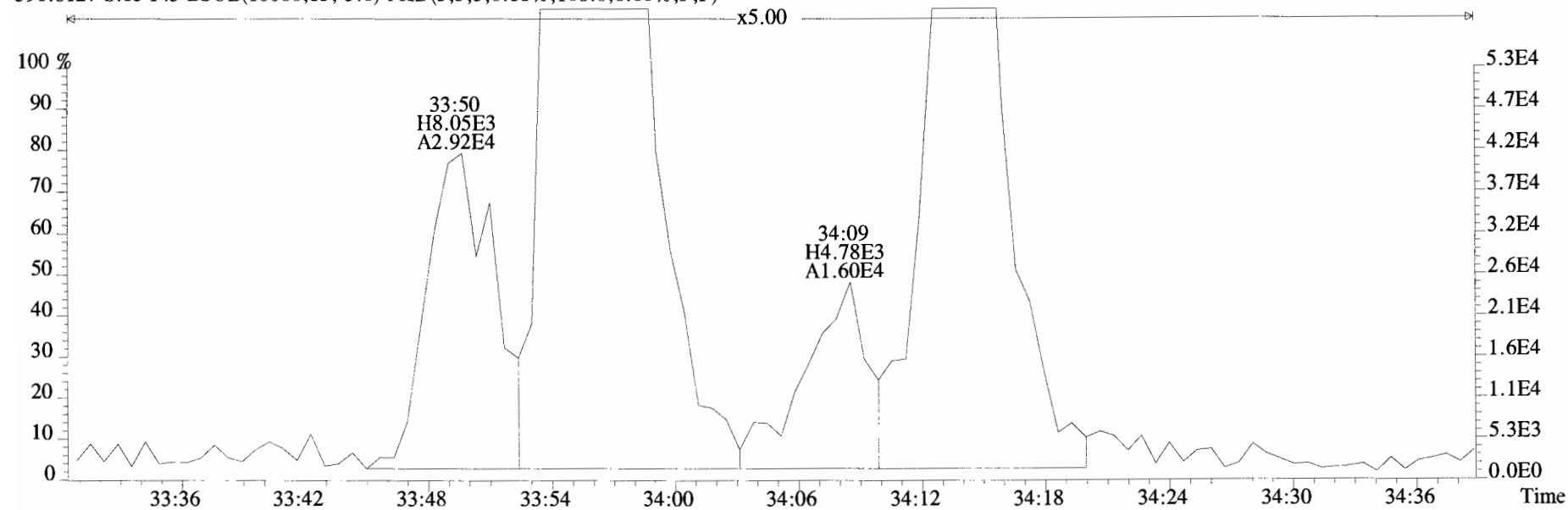
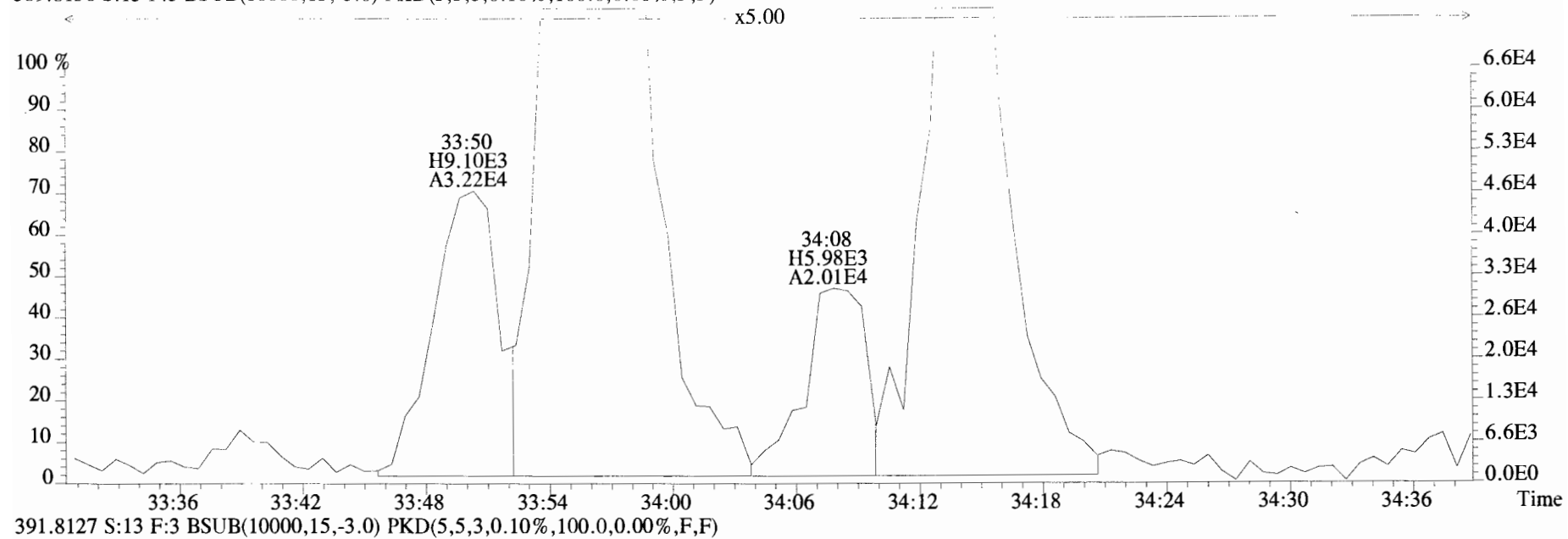
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



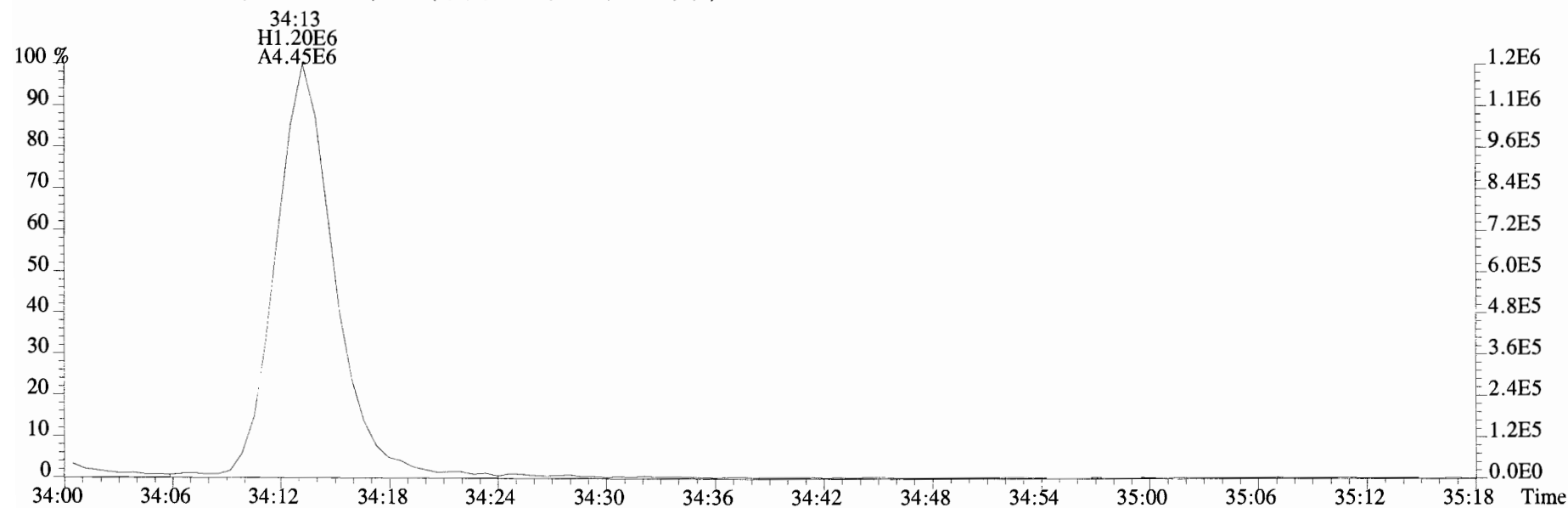
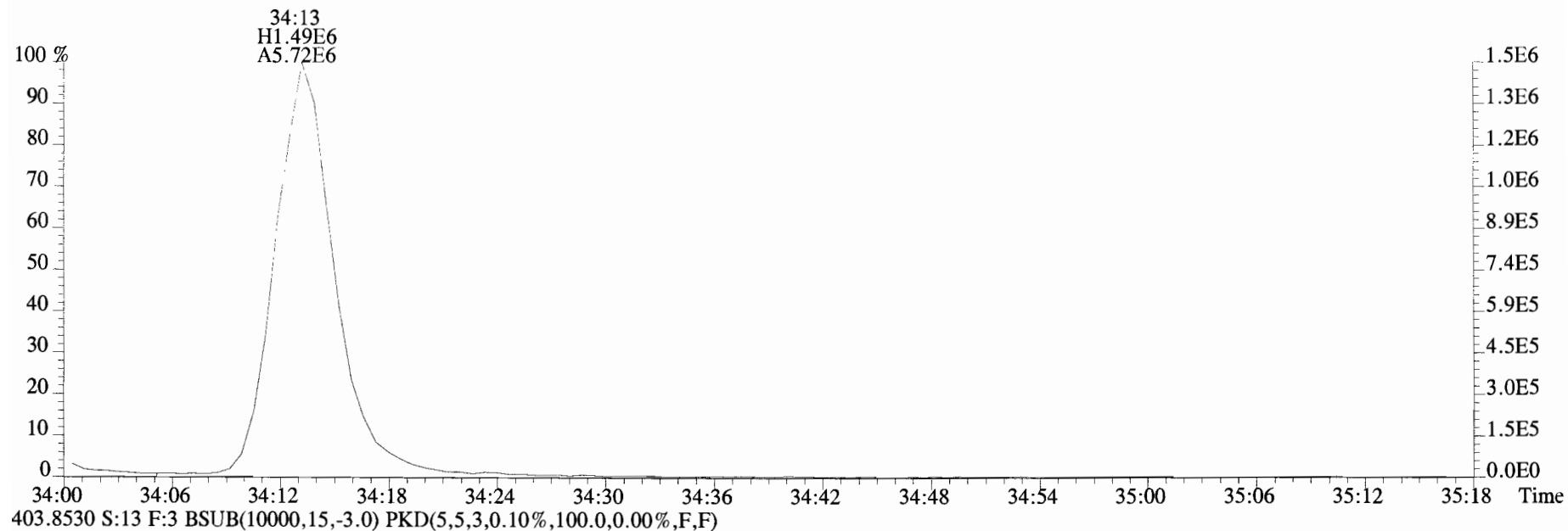
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



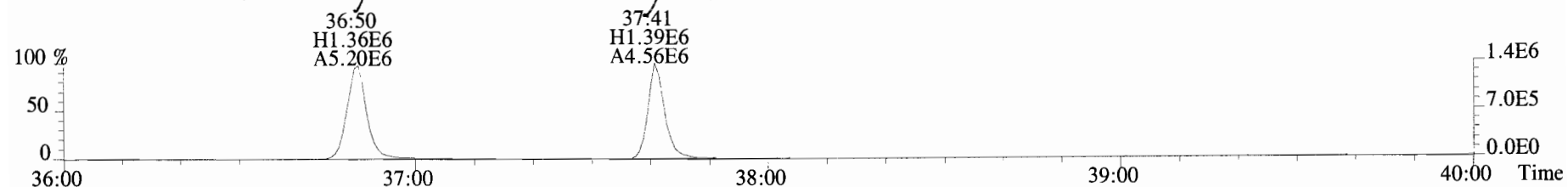
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



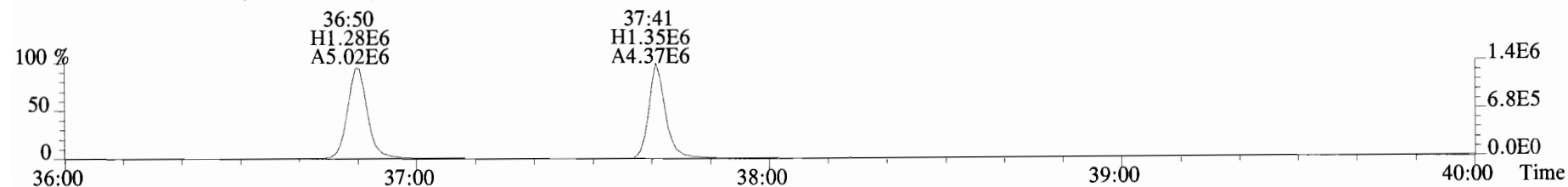
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
401.8559 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



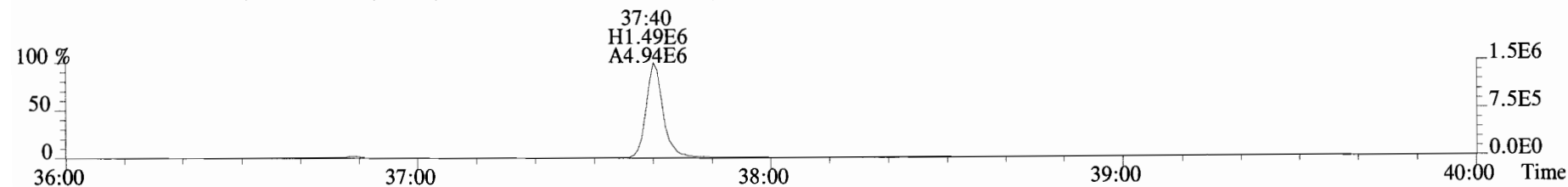
File:190627D1 #1-356 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
423.7767 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



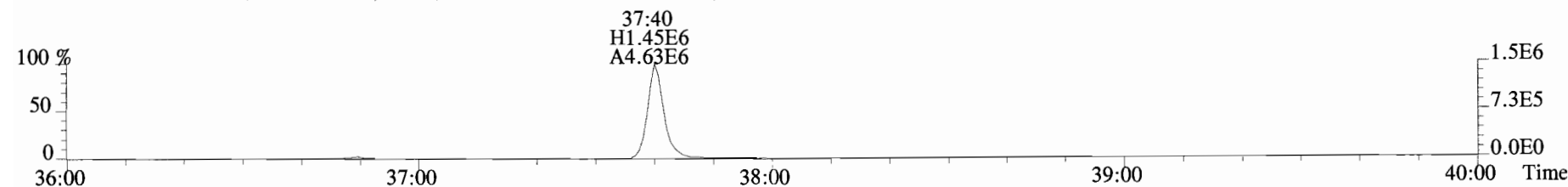
425.7737 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



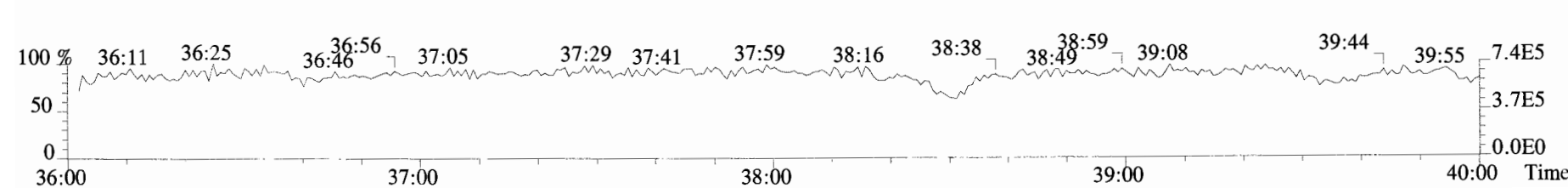
435.8169 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



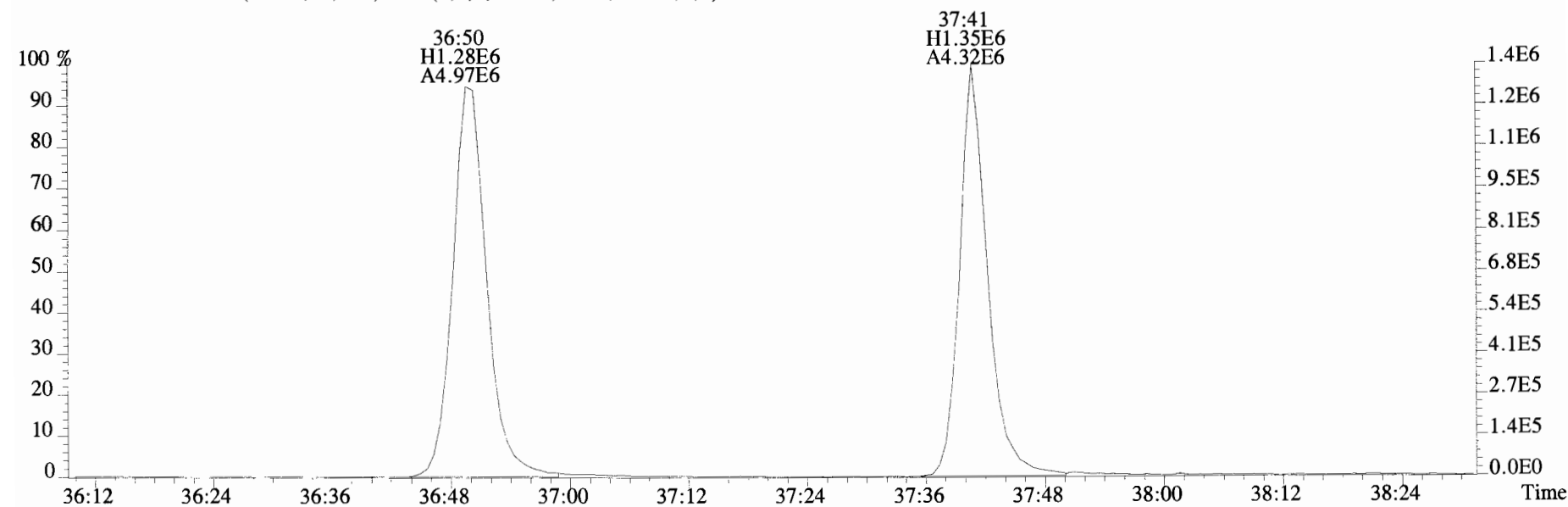
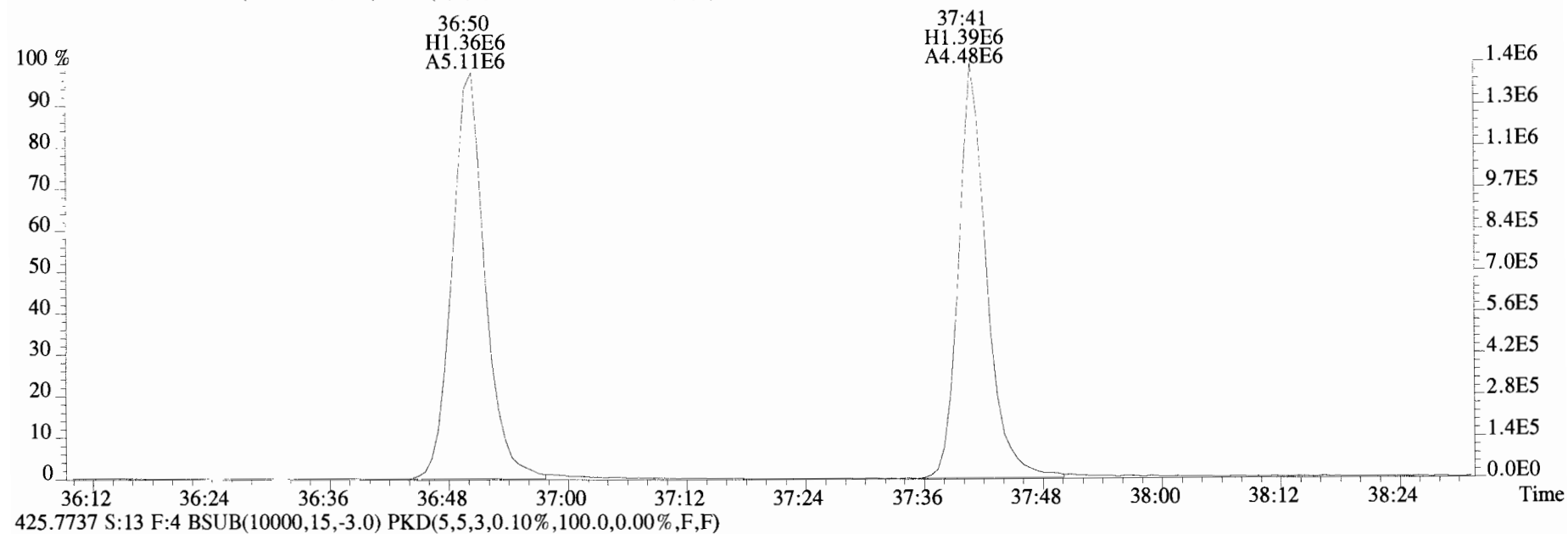
437.8140 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



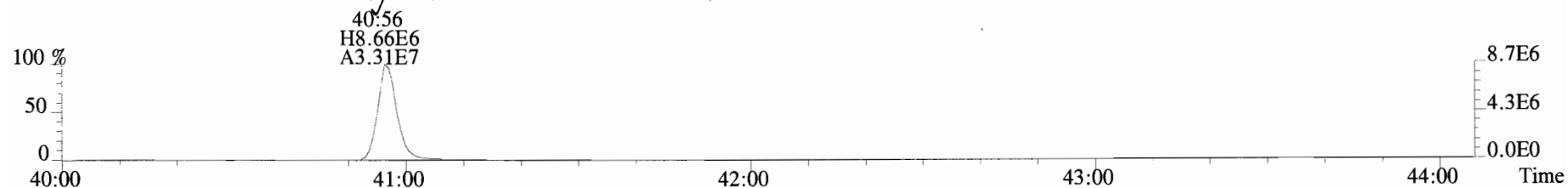
454.9728 S:13 F:4



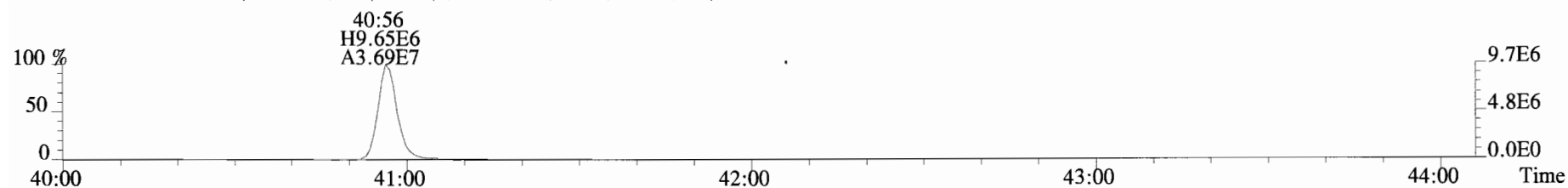
File:190627D1 #1-356 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text: Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
423.7767 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



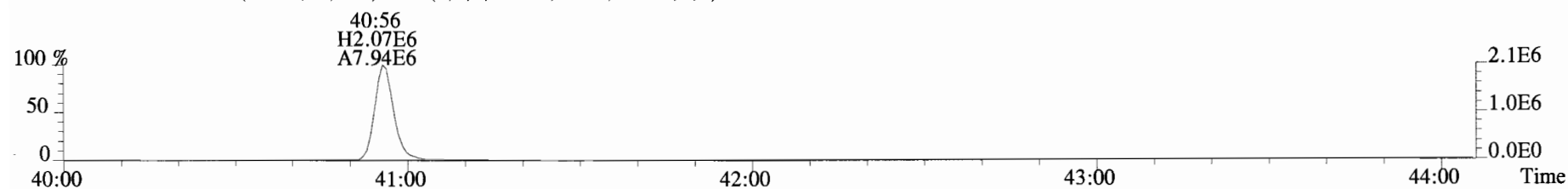
File:190627D1 #1-431 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text: Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
457.7377 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



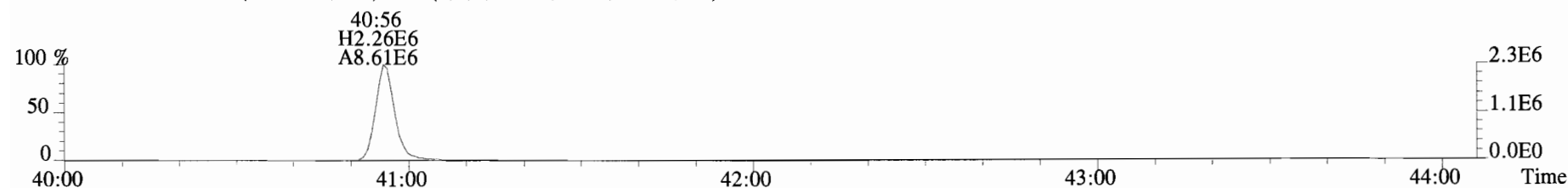
459.7348 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



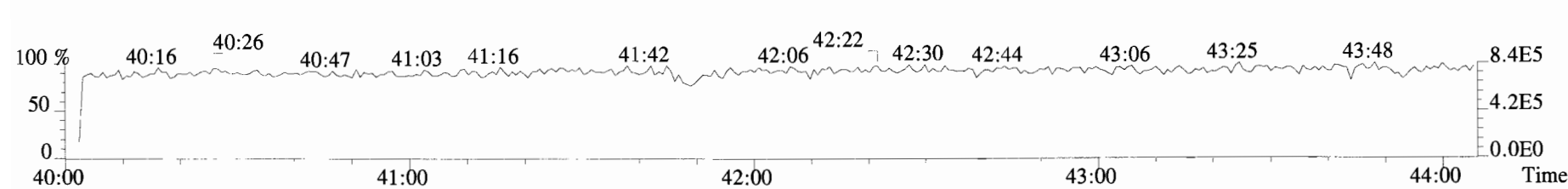
469.7780 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



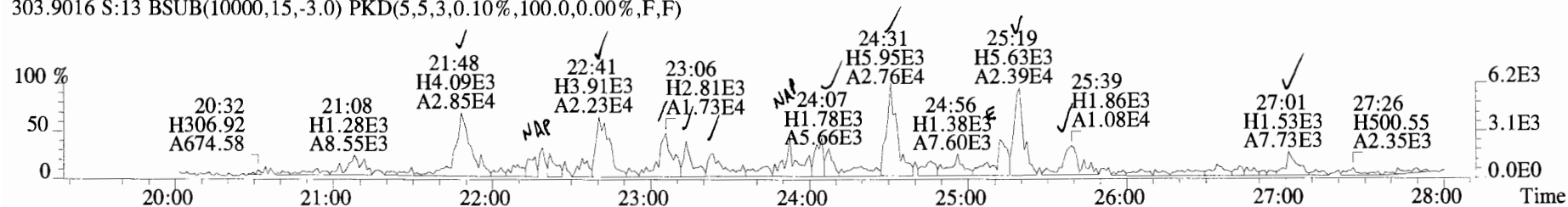
471.7750 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



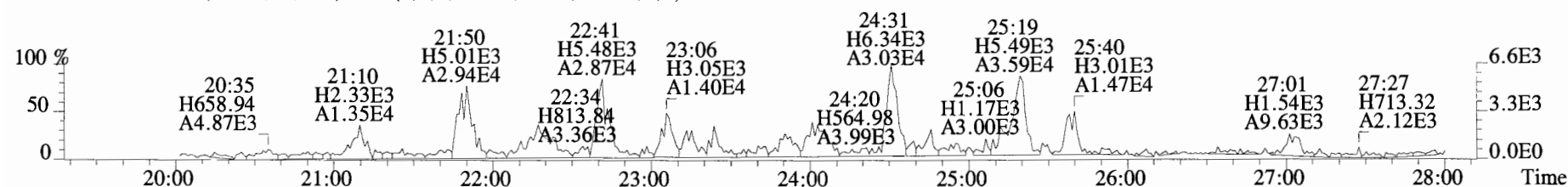
454.9728 S:13 F:5



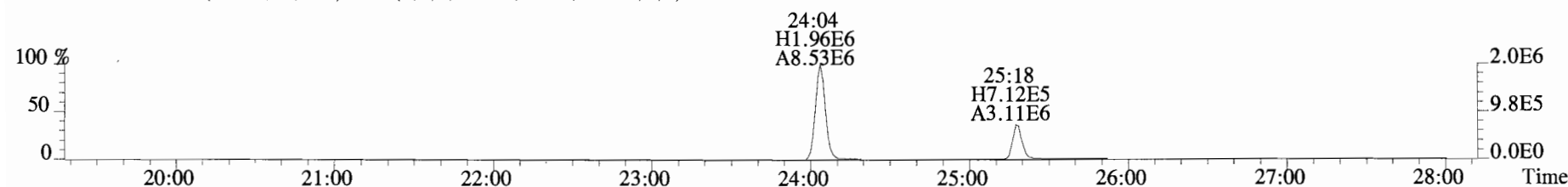
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



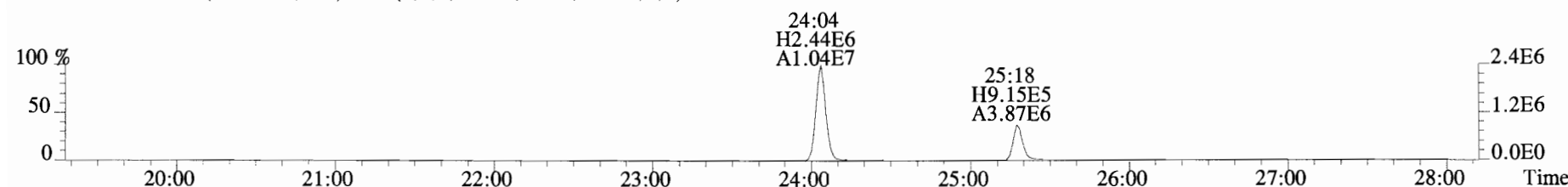
305.8987 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



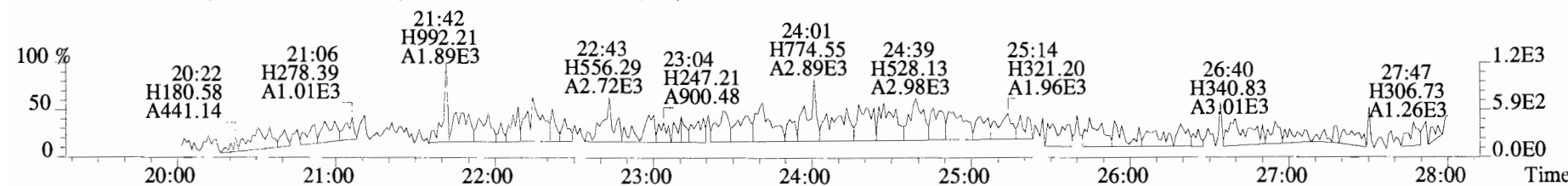
315.9419 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



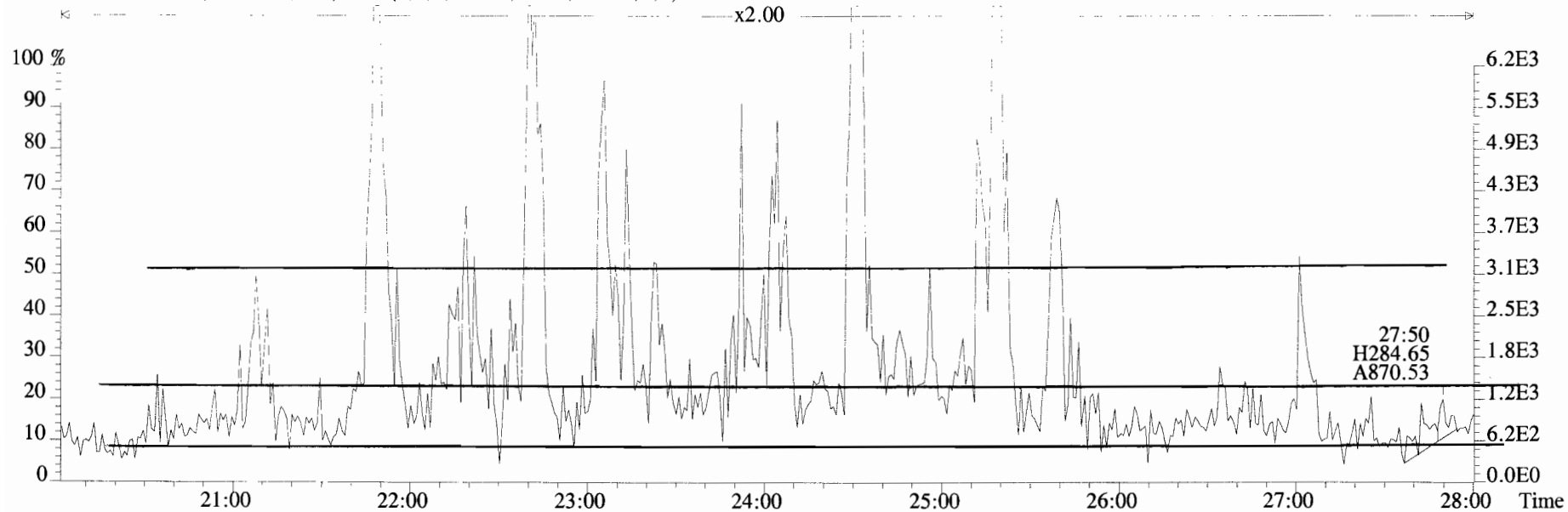
317.9389 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



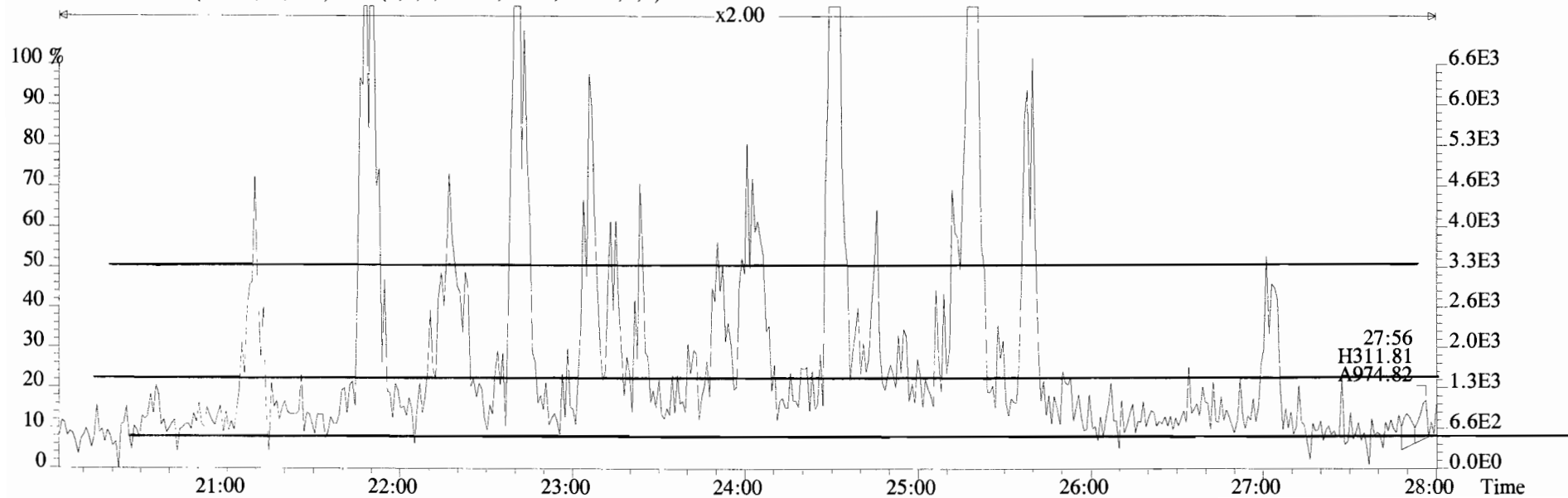
375.8364 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



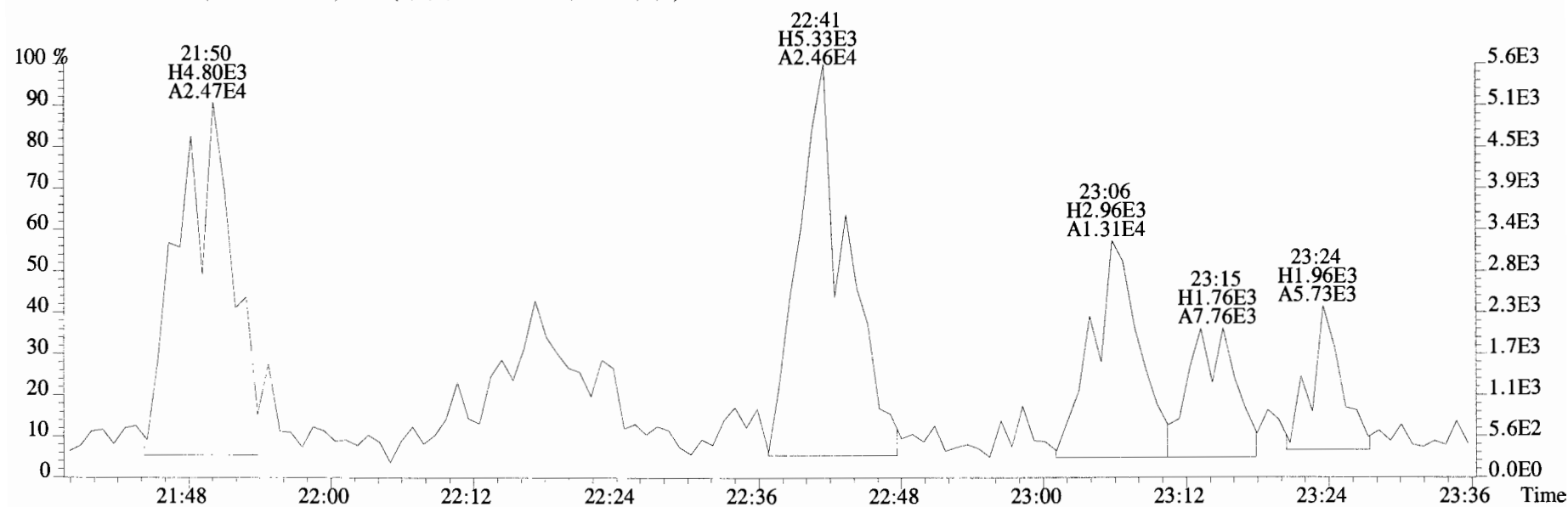
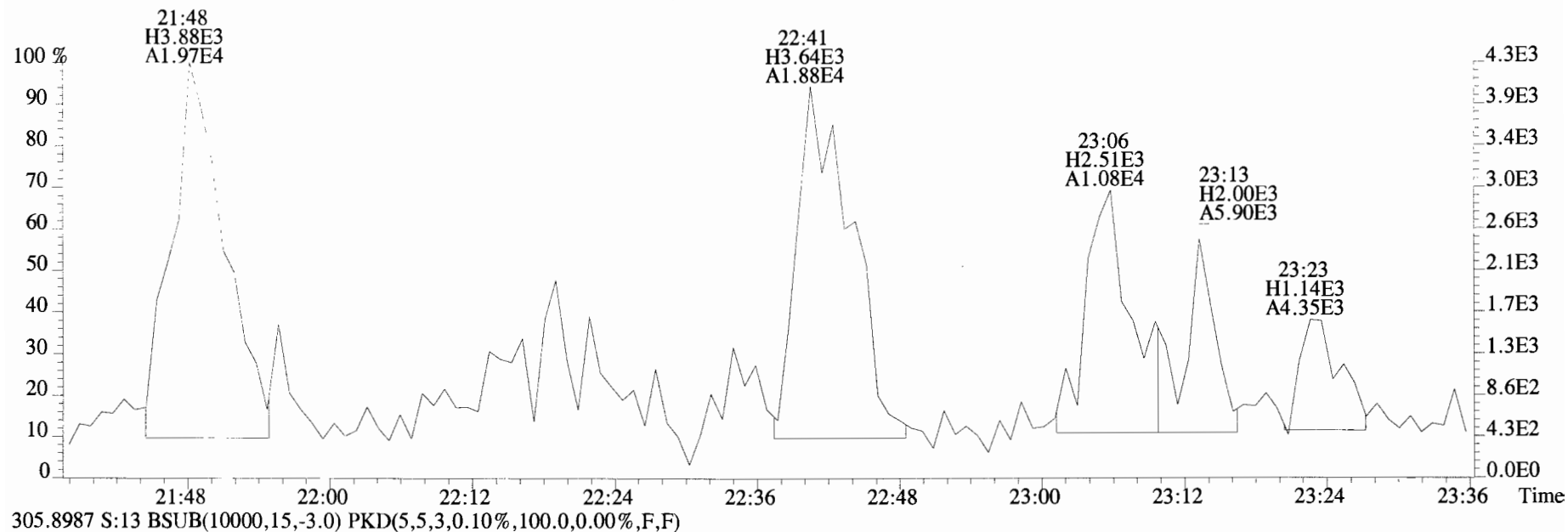
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



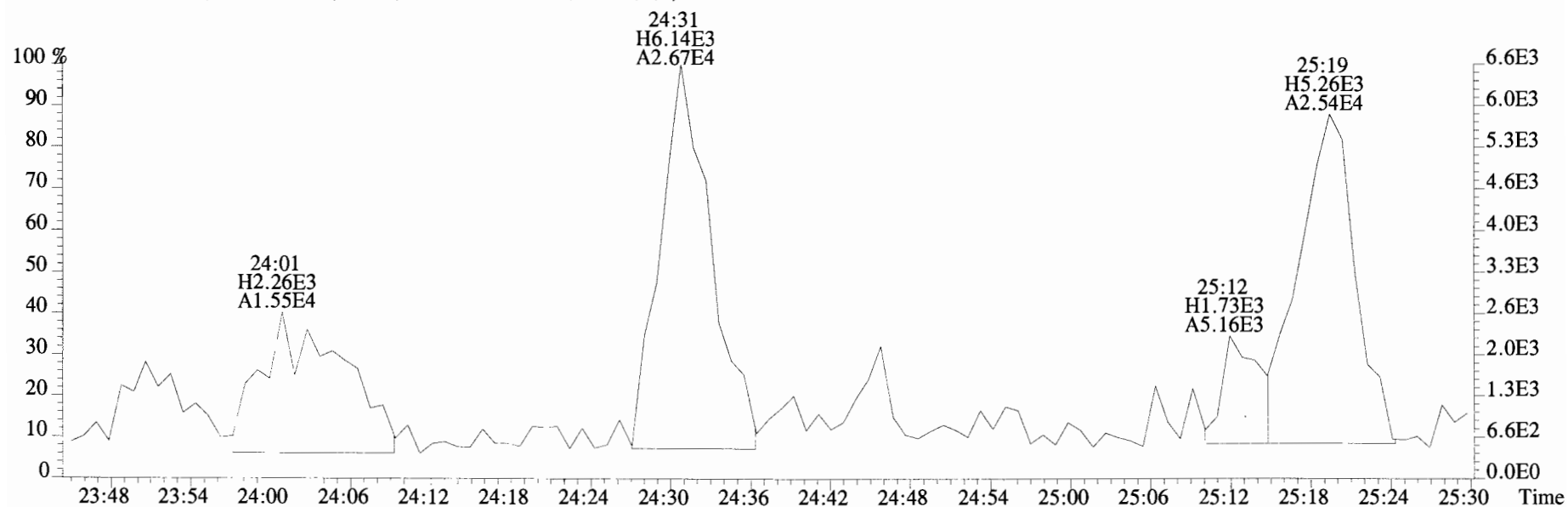
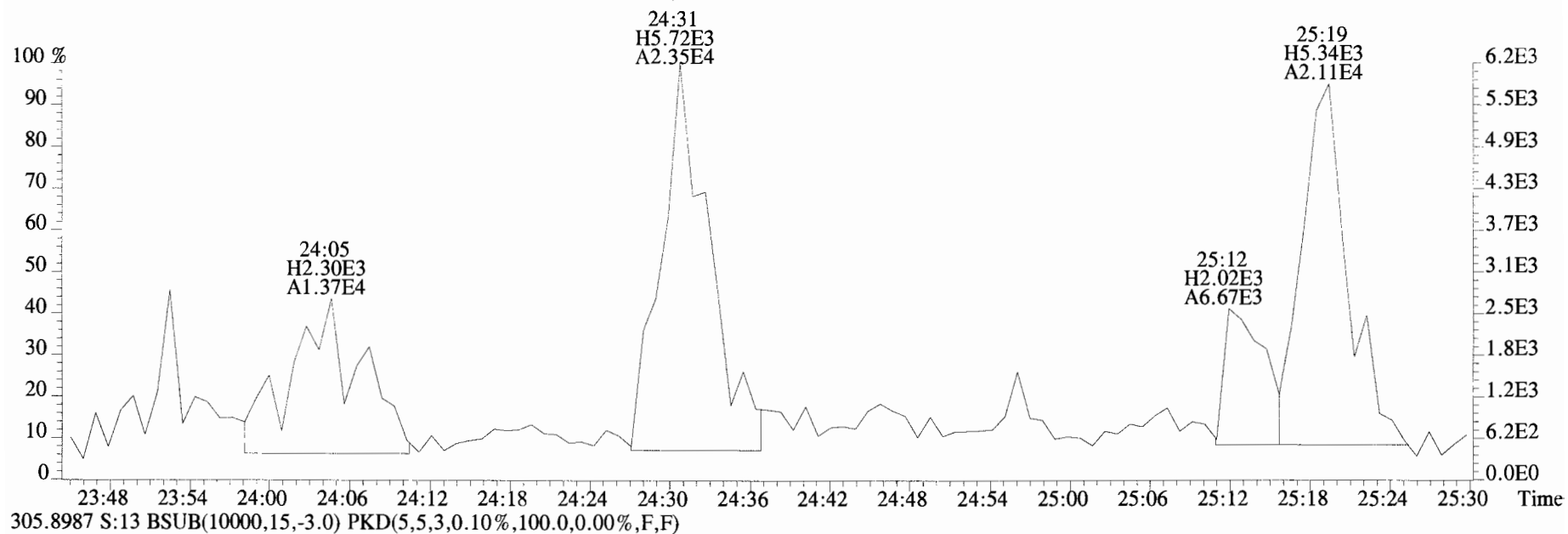
305.8987 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



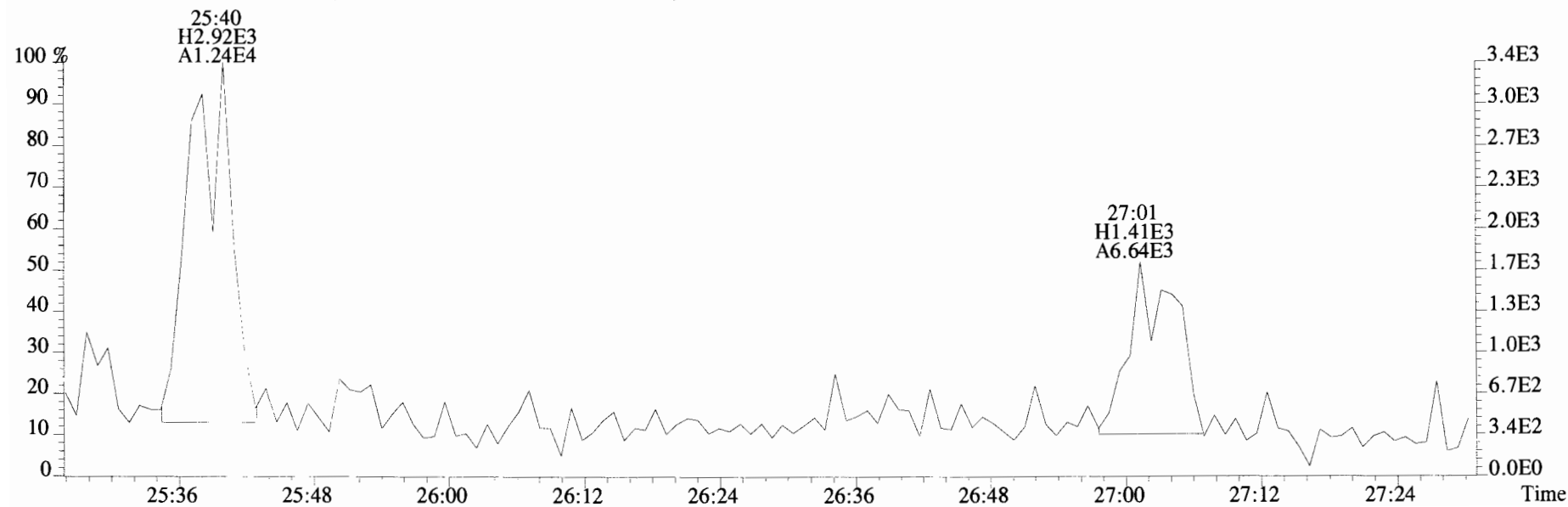
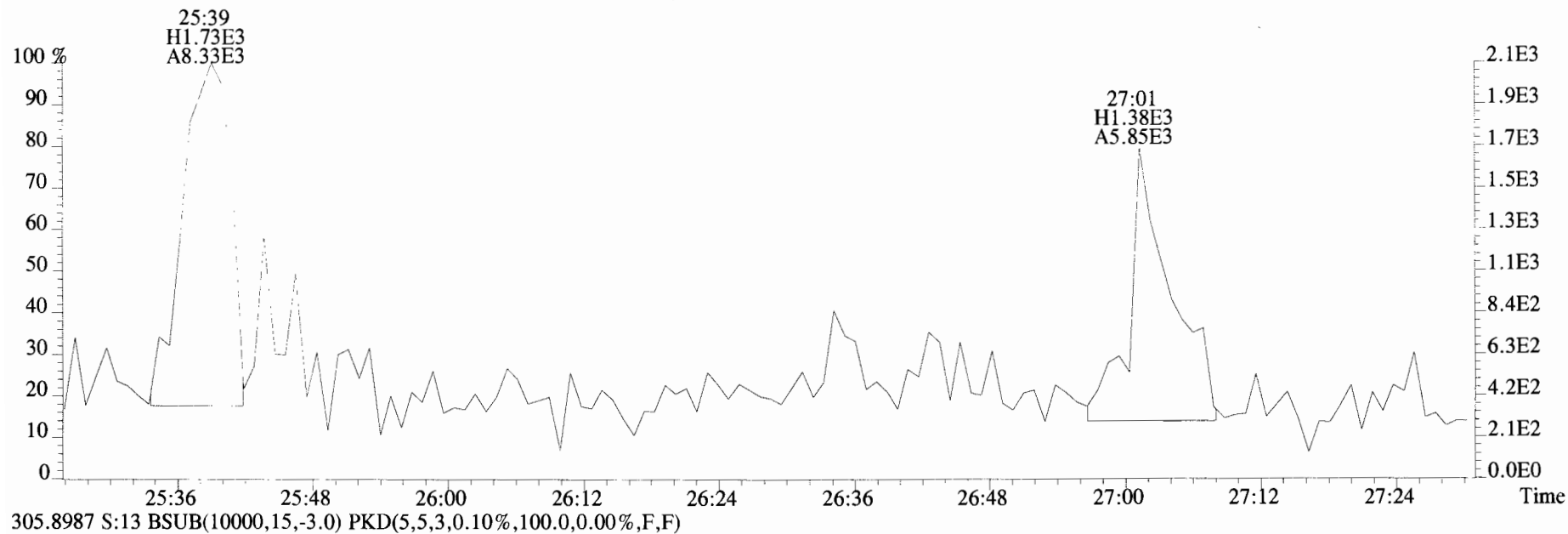
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



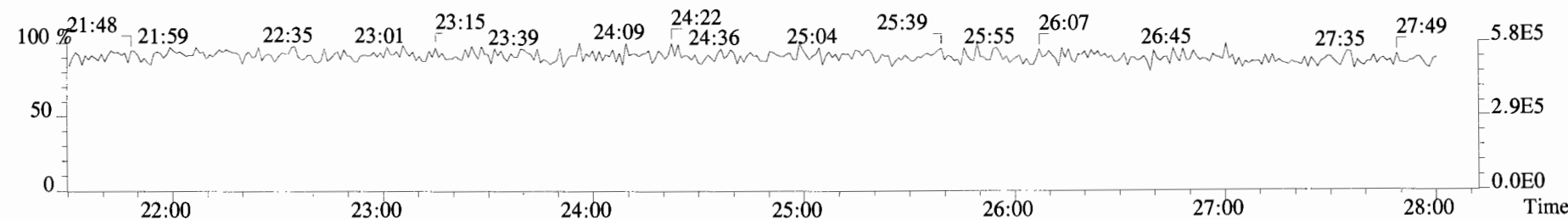
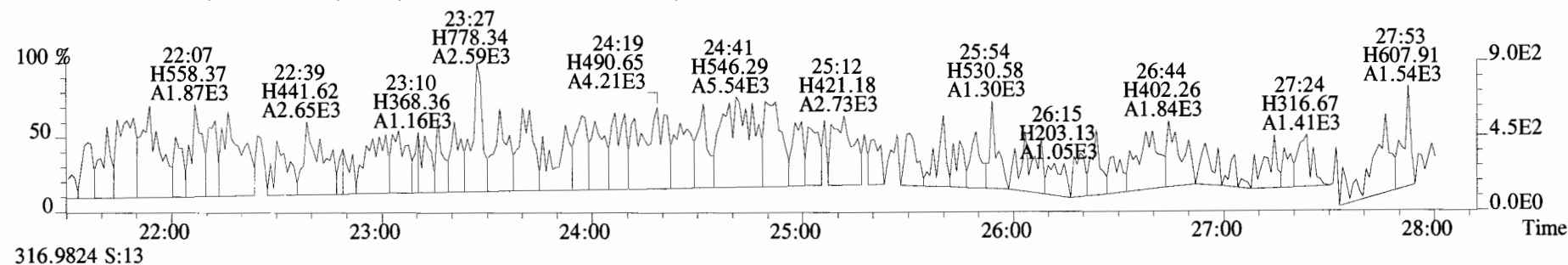
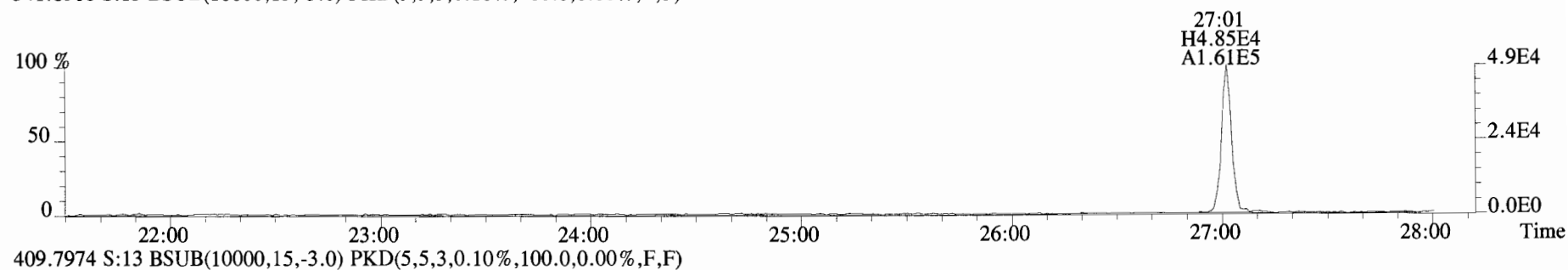
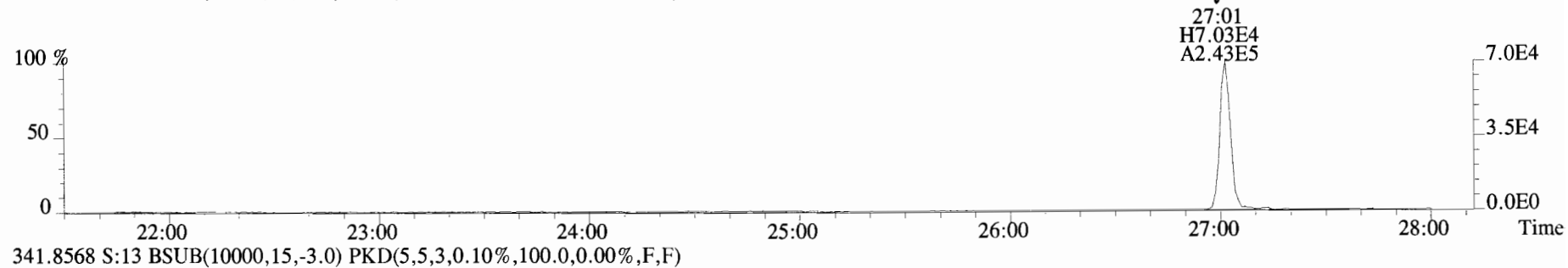
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



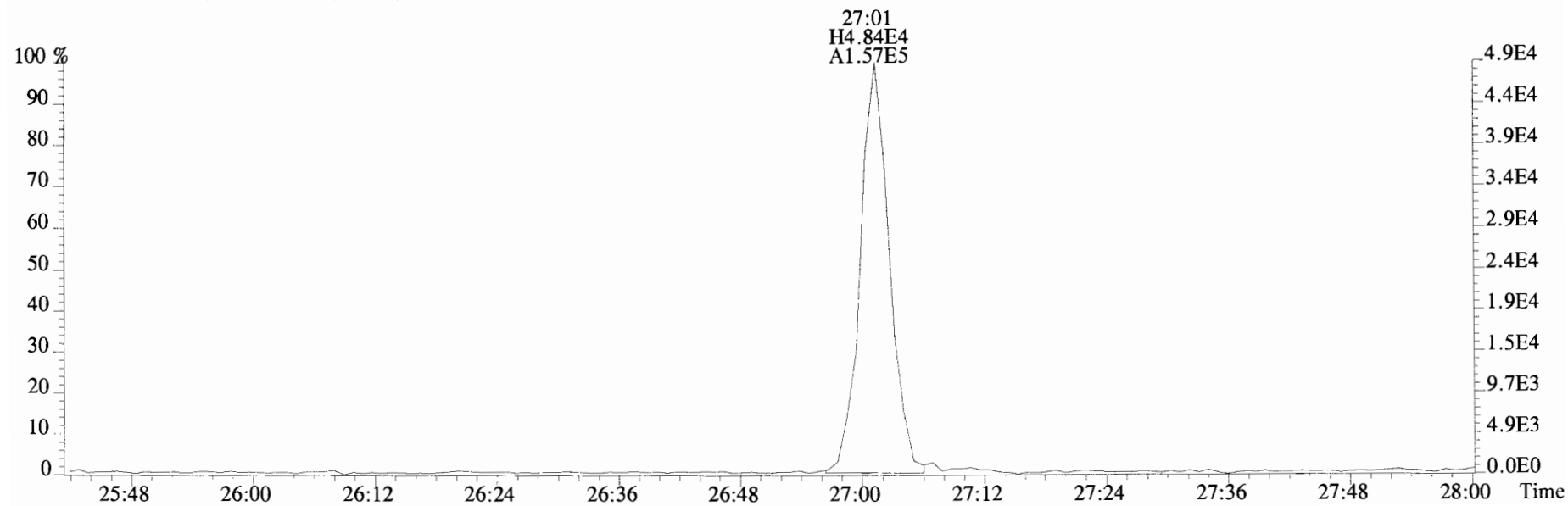
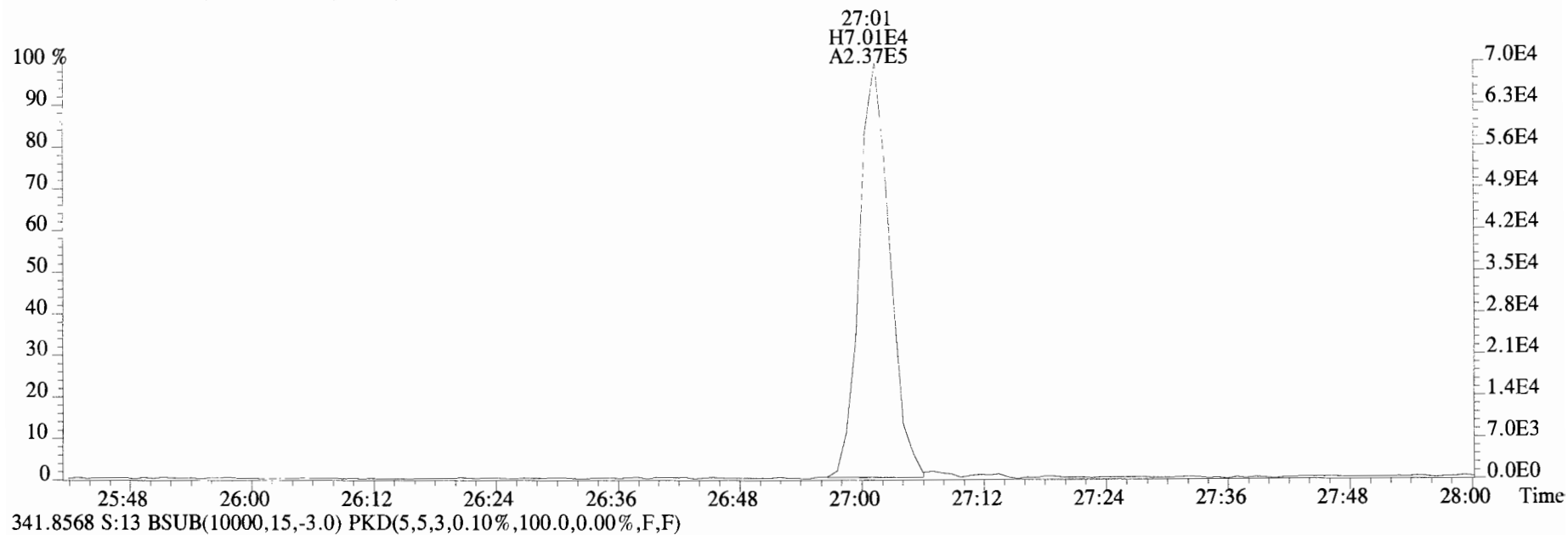
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



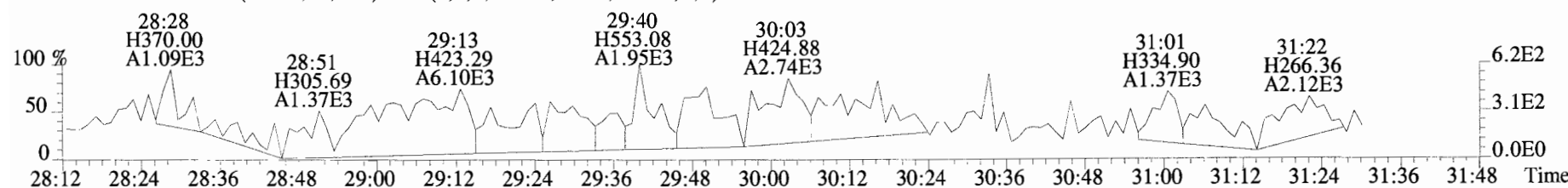
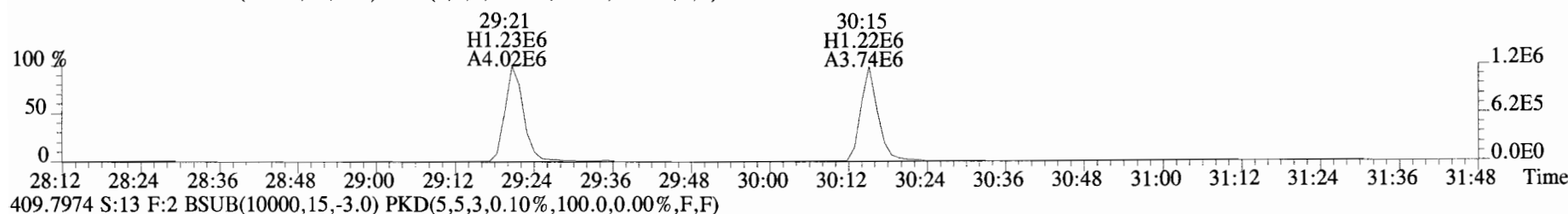
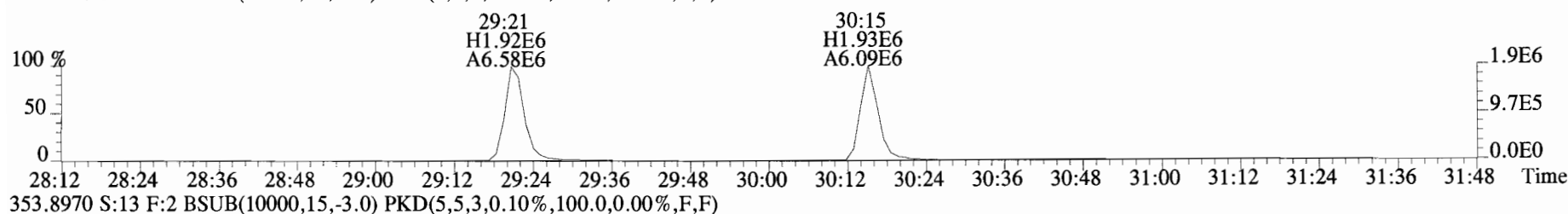
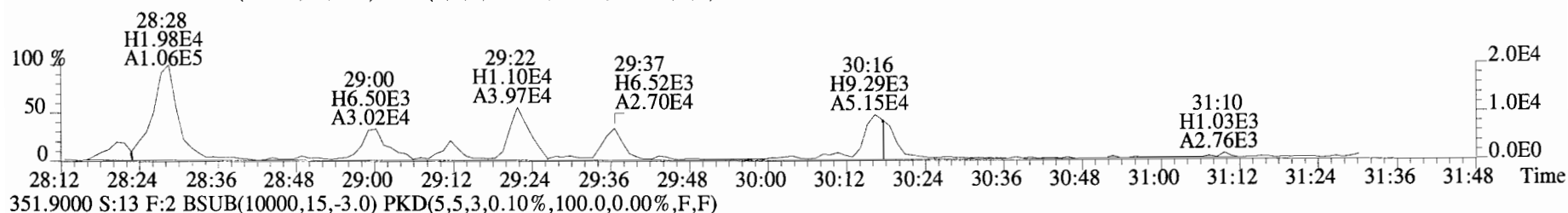
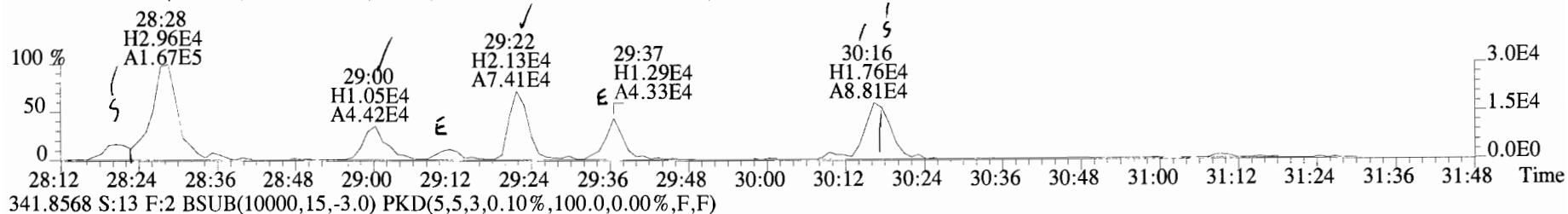
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
339.8597 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



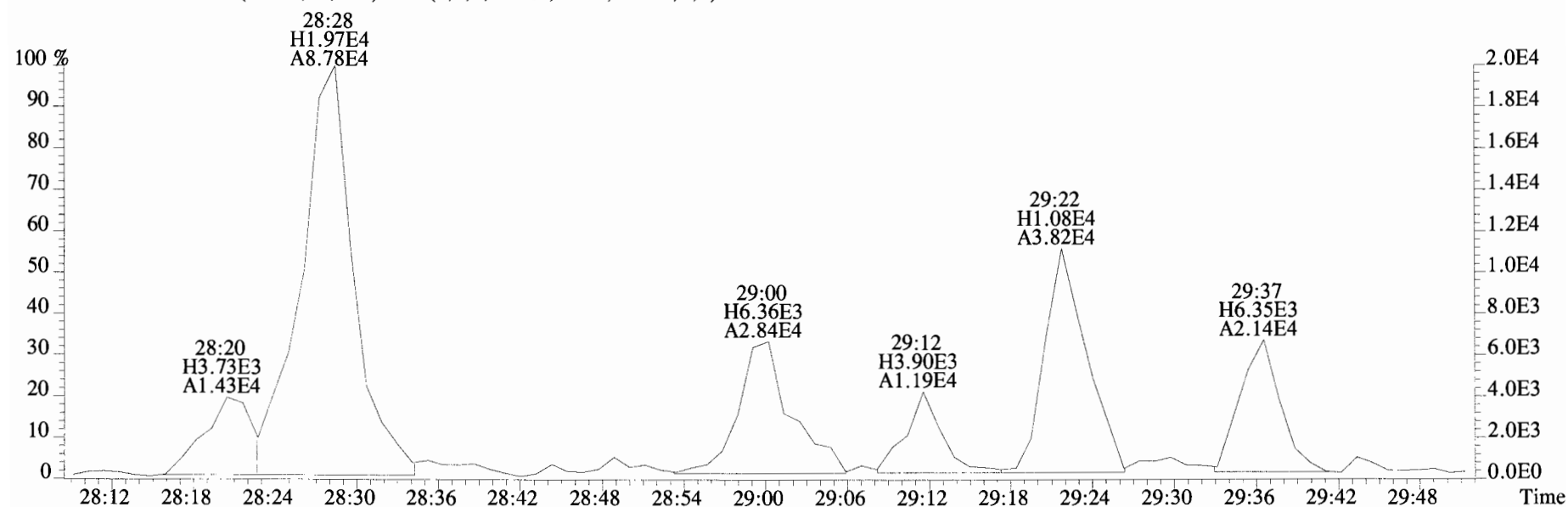
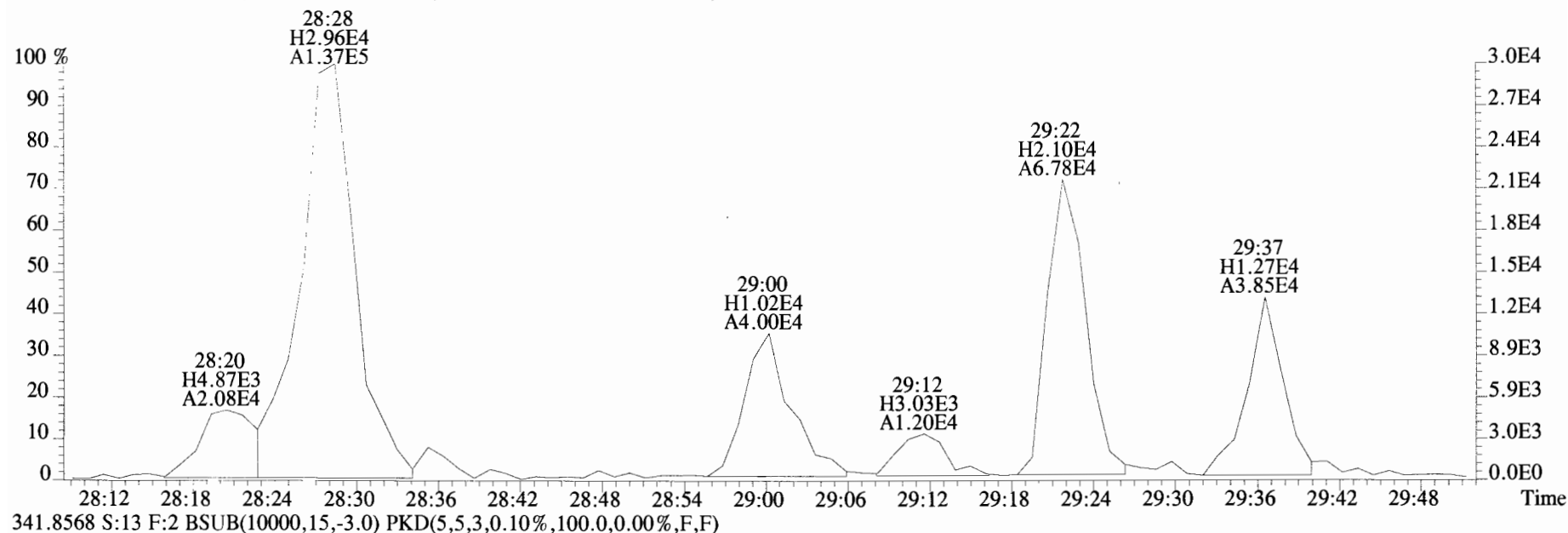
File:190627D1 #1-513 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
339.8597 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



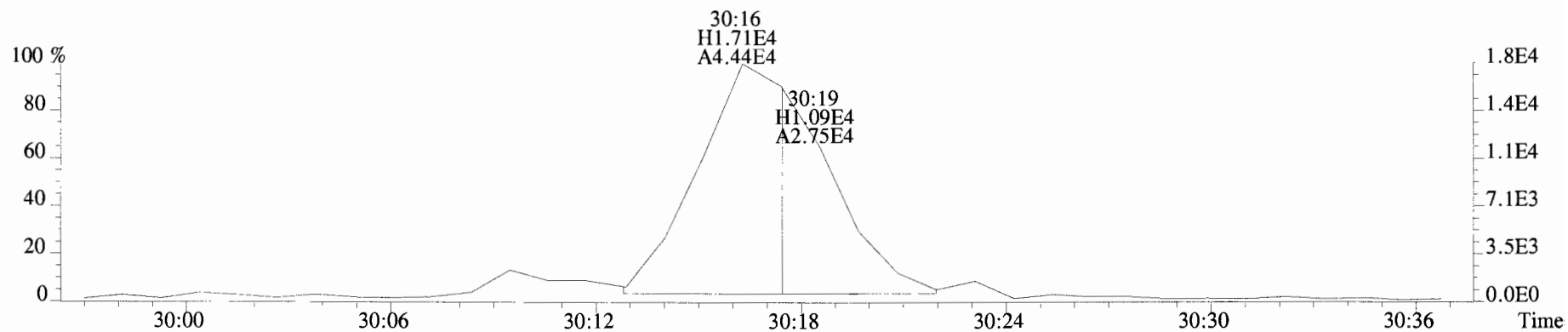
File:190627D1 #1-184 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text: Vista Analytical Laboratory_VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



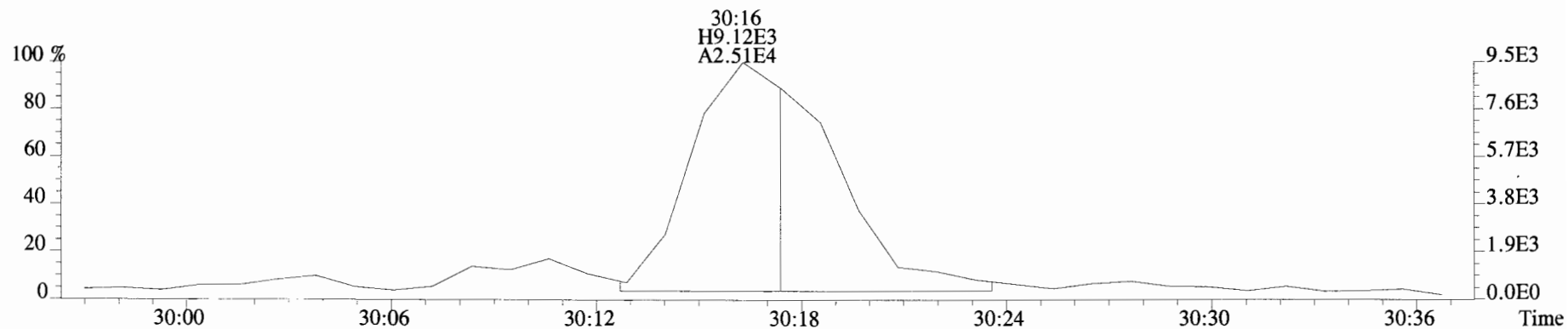
File:190627D1 #1-184 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



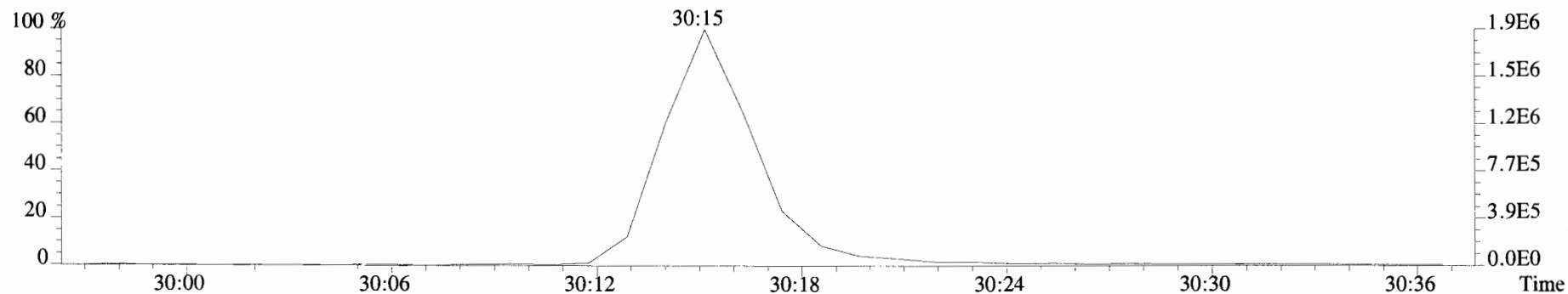
File:190627D1 #1-184 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



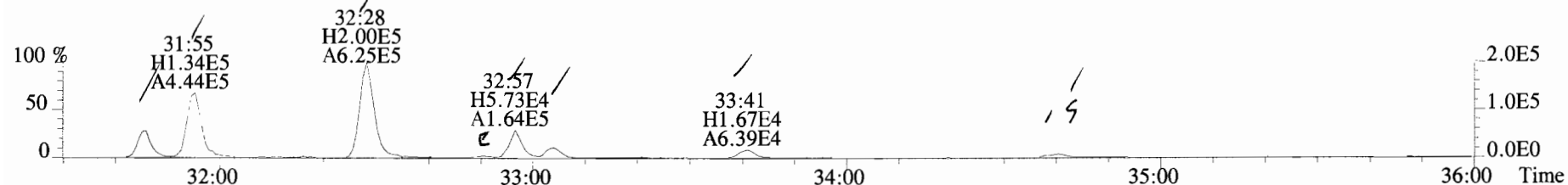
341.8568 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



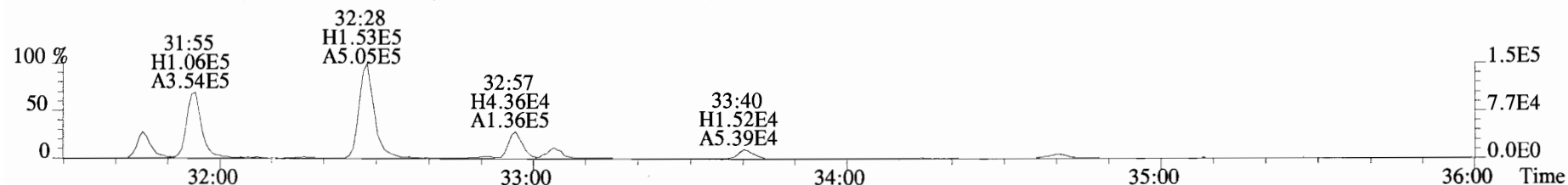
351.9000 S:13 F:2



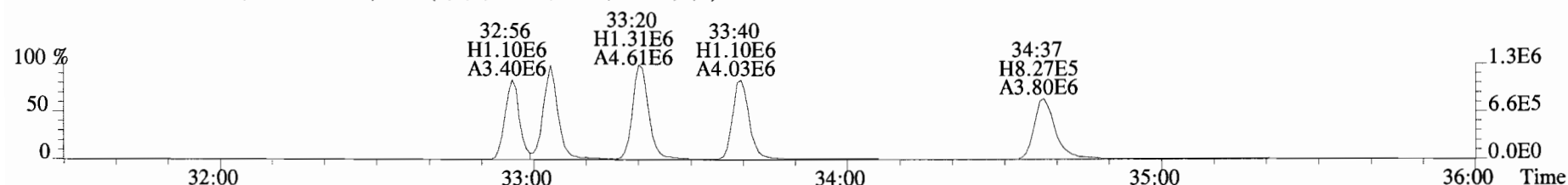
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text: Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



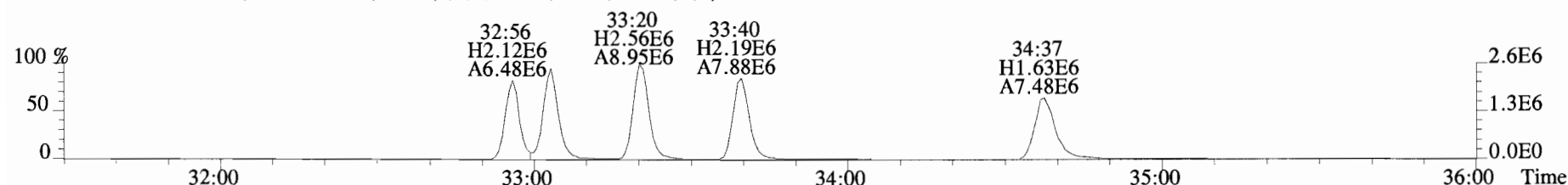
375.8178 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



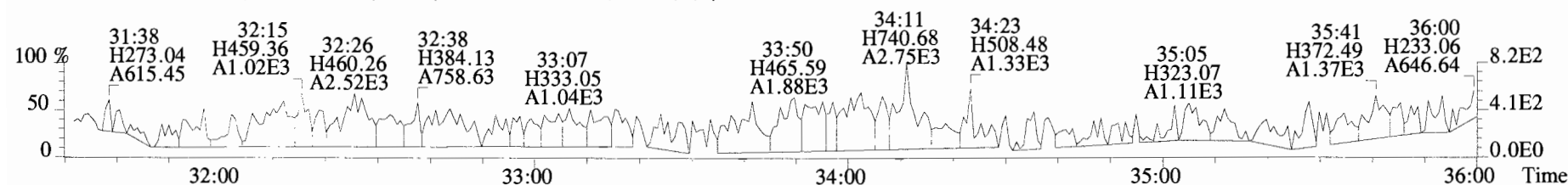
383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



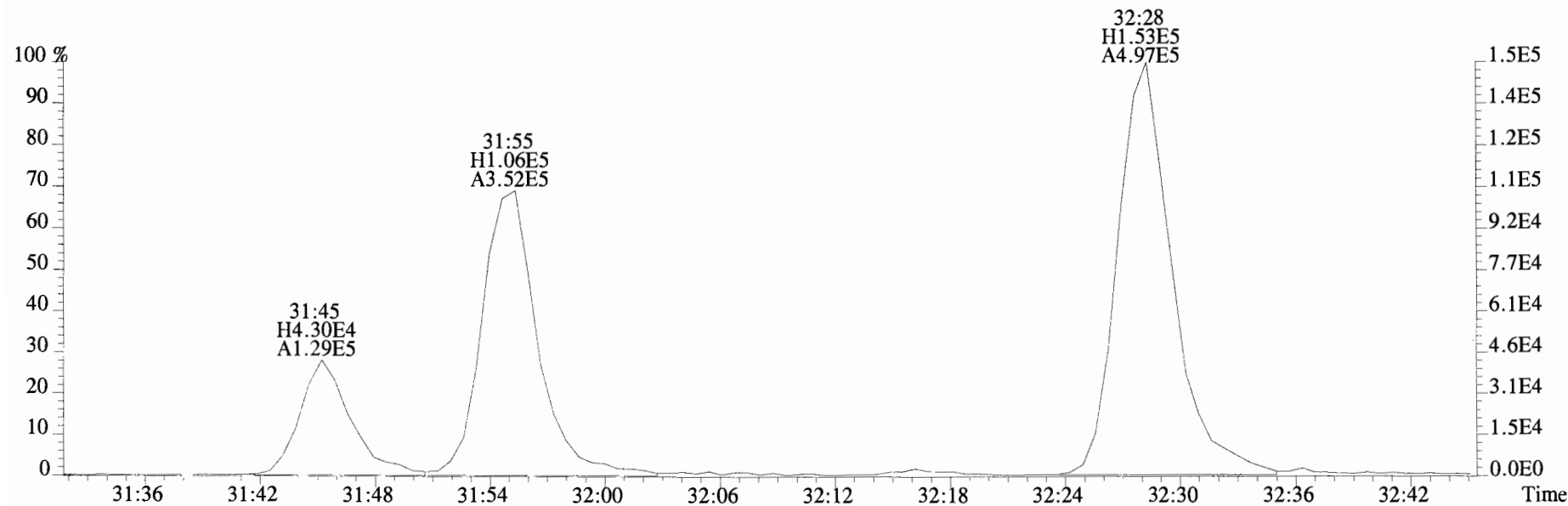
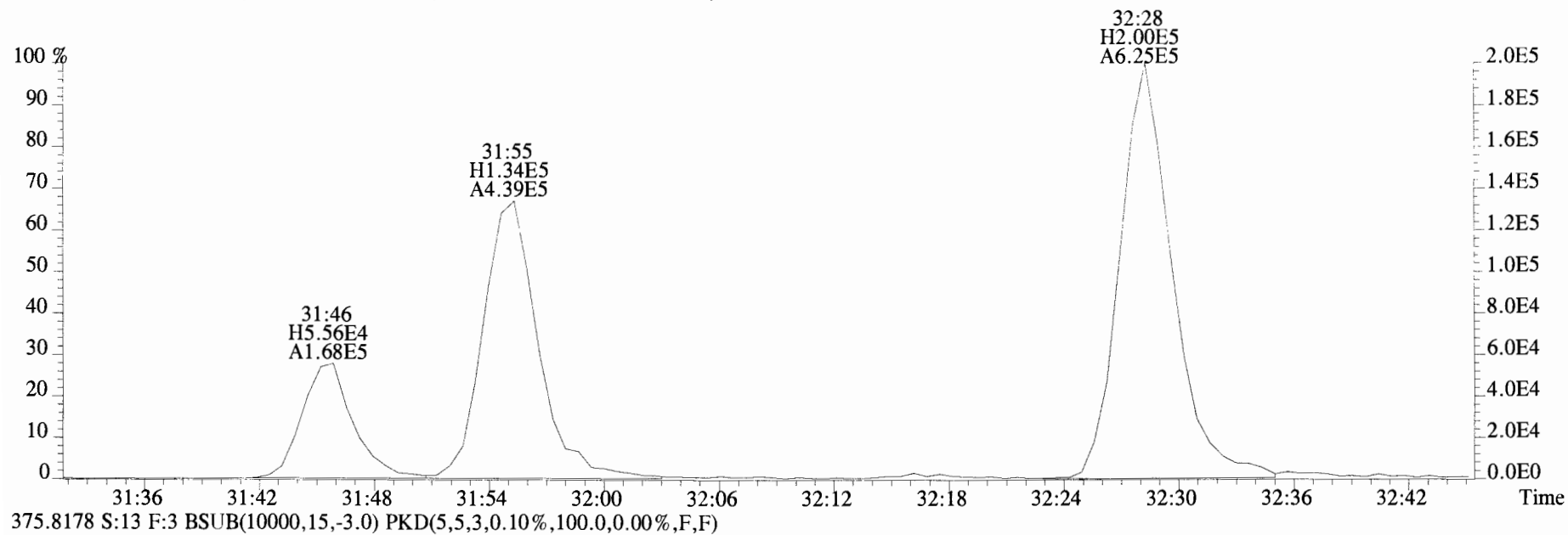
385.8610 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



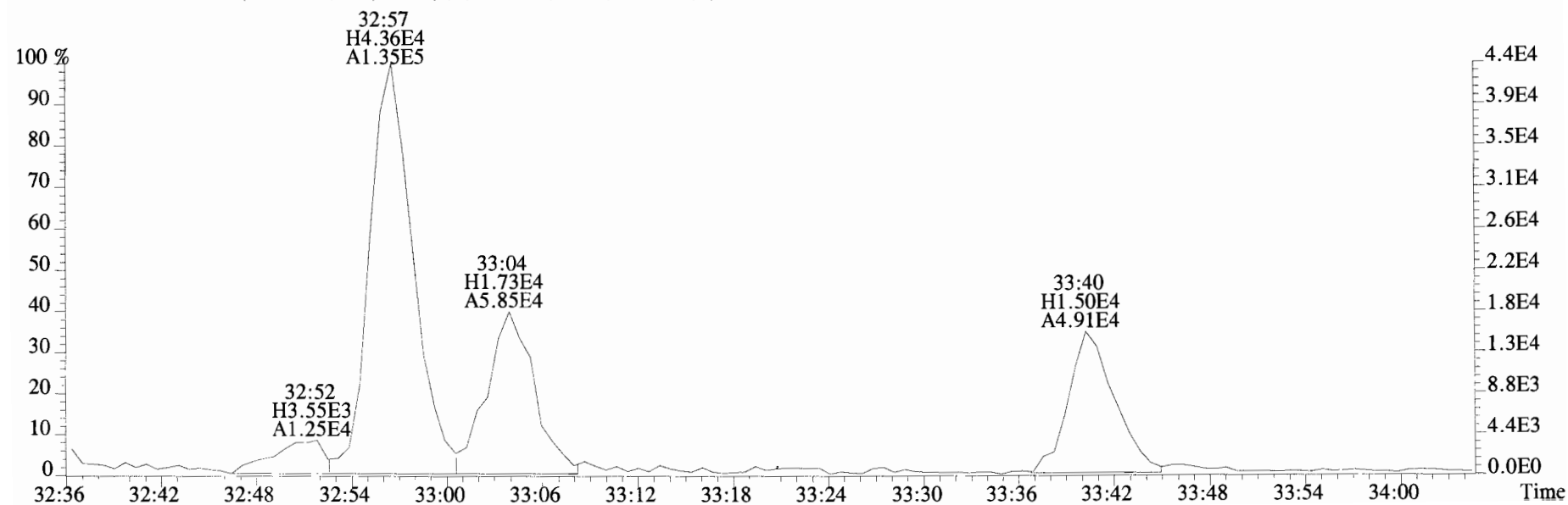
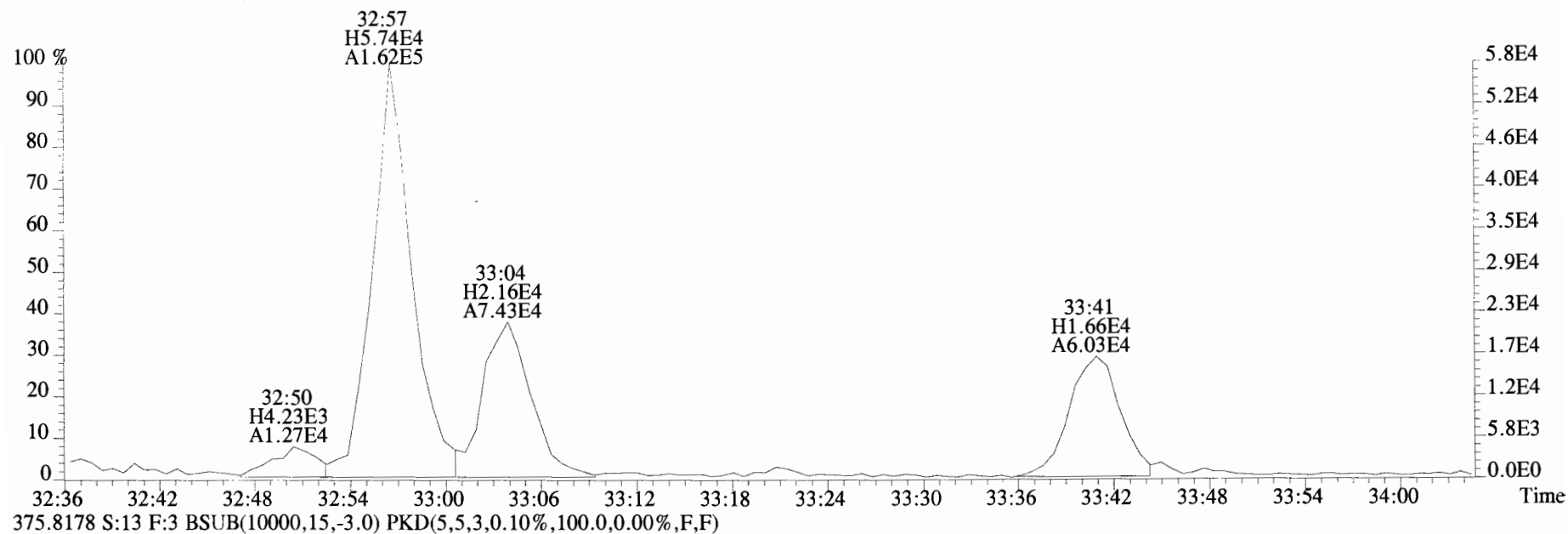
445.7555 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



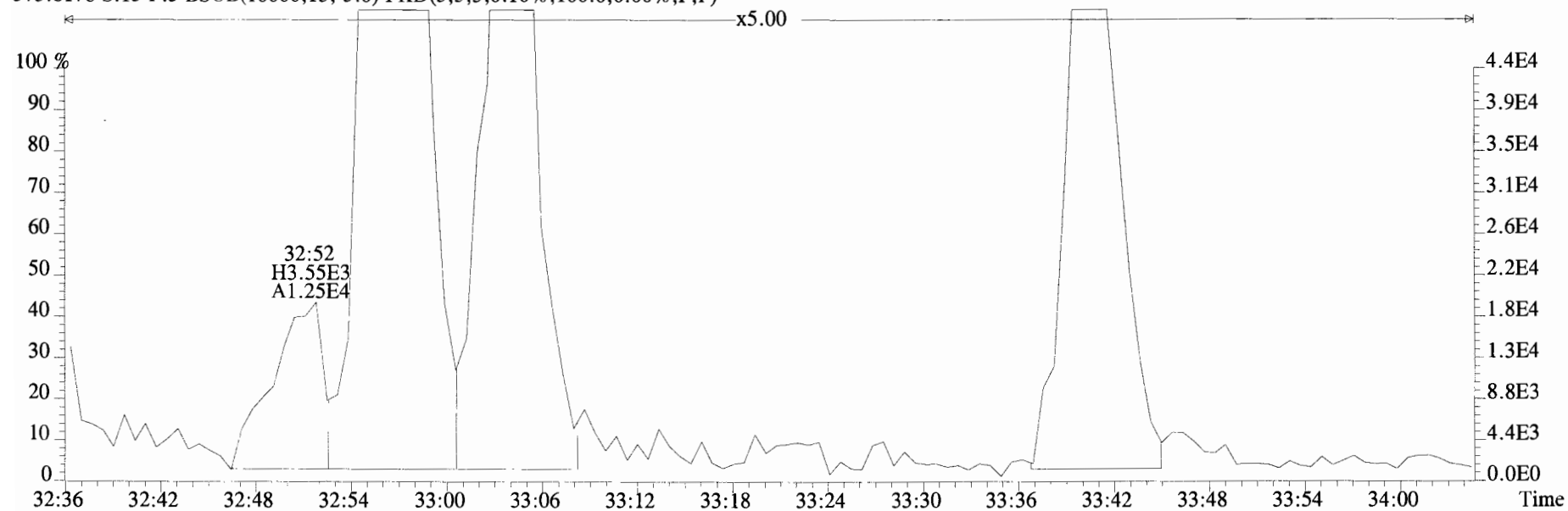
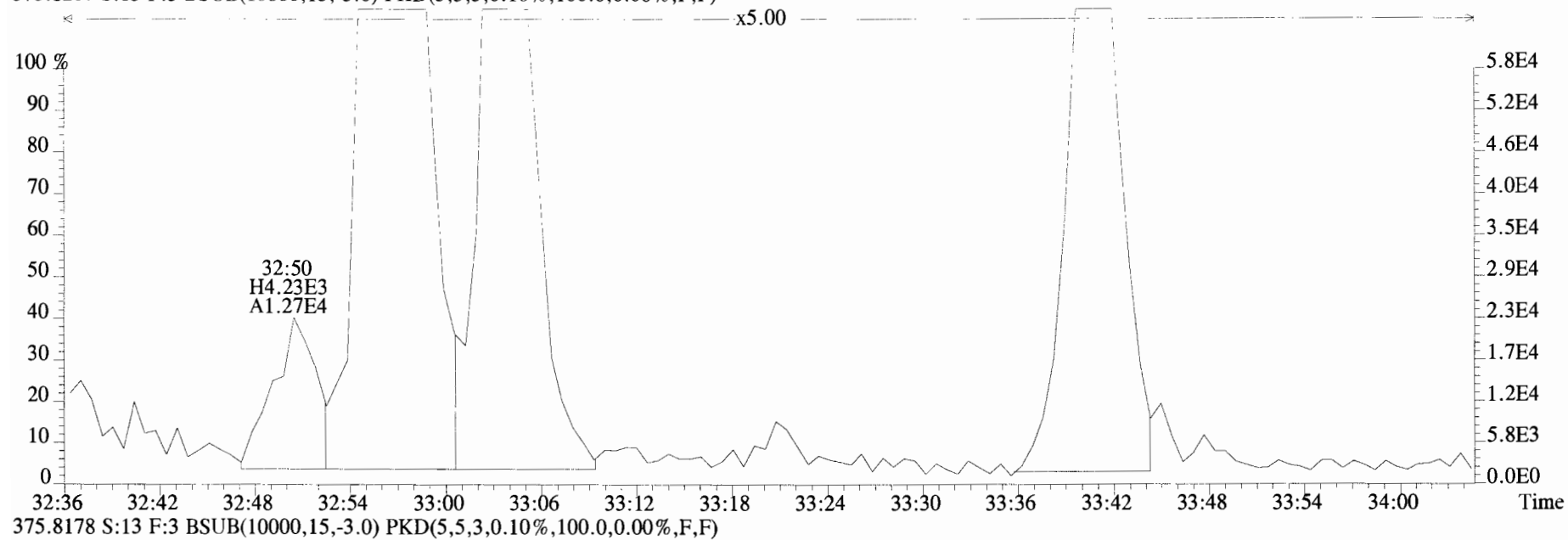
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text: Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



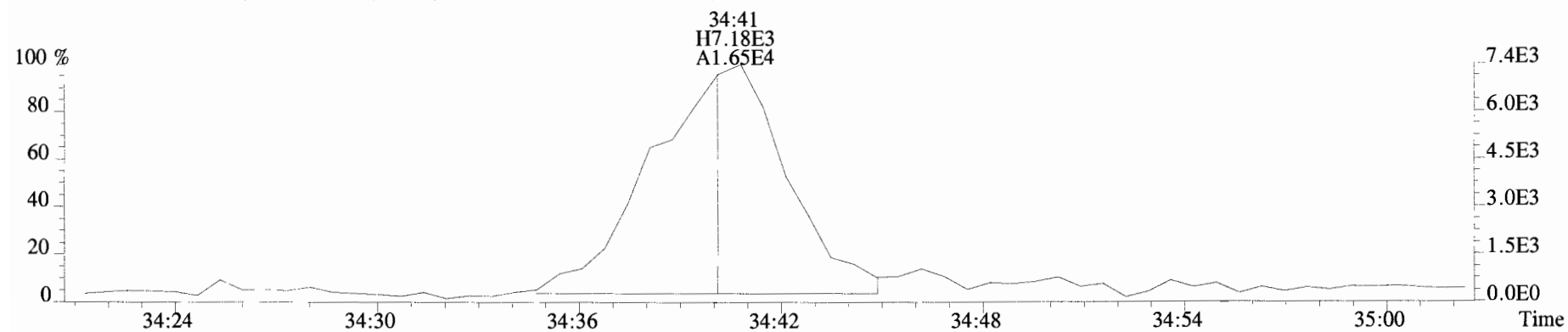
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



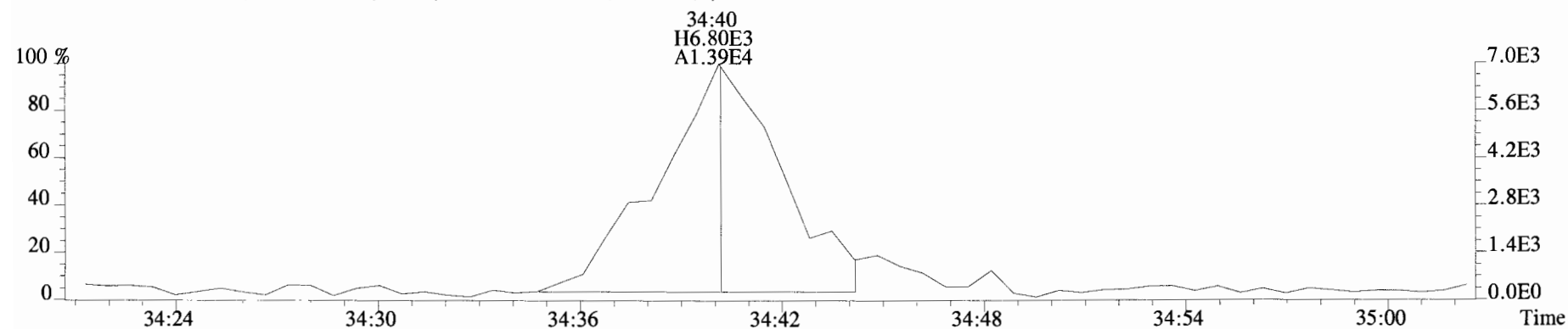
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



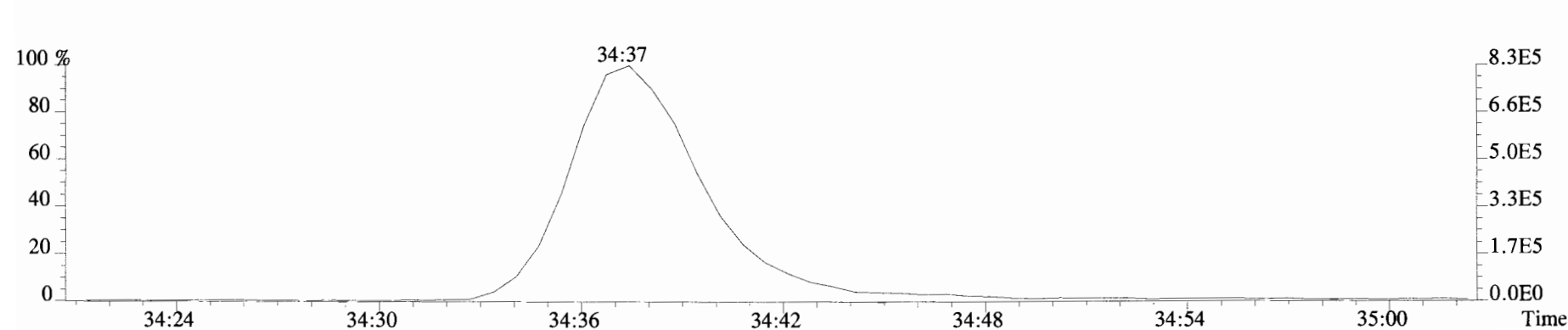
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



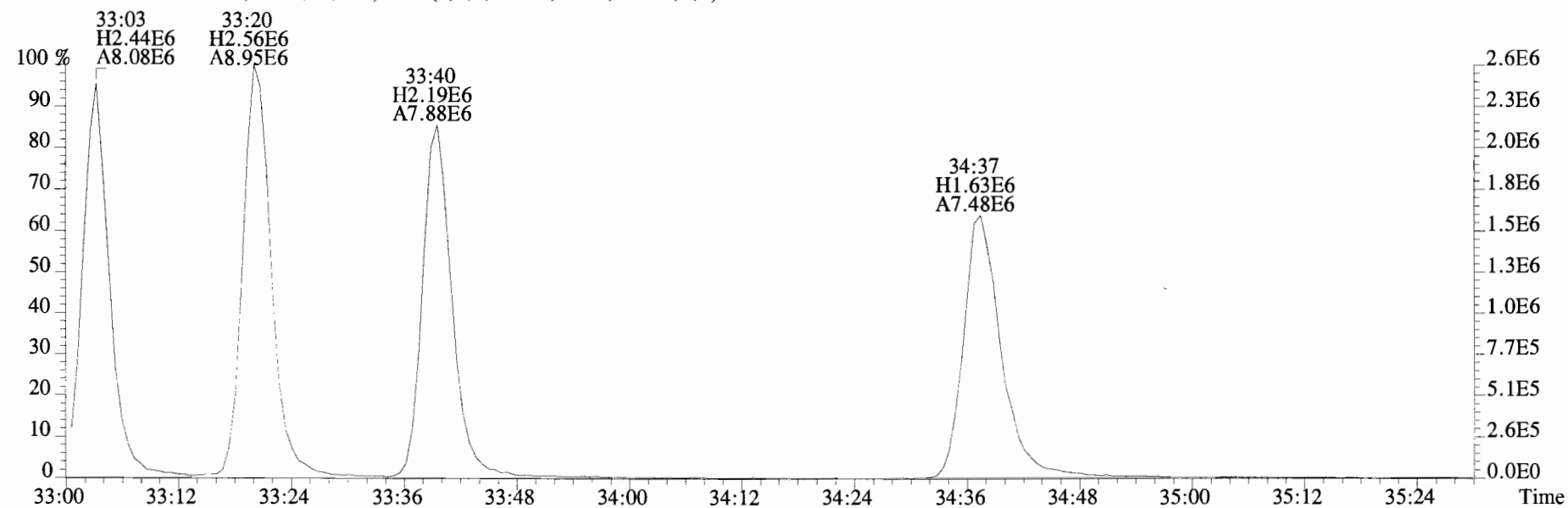
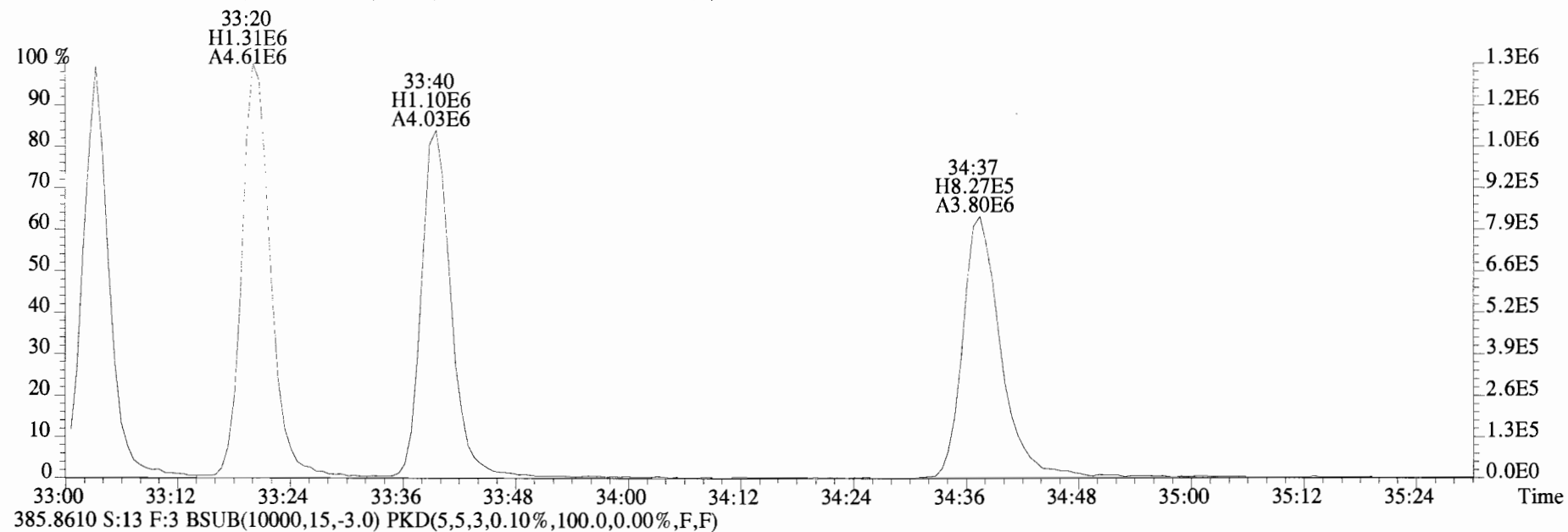
375.8178 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



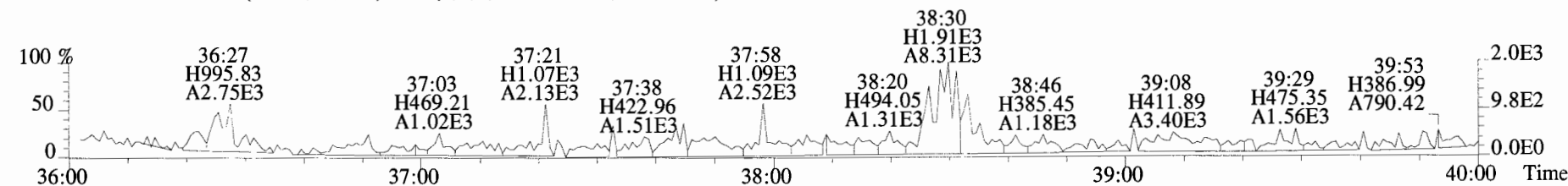
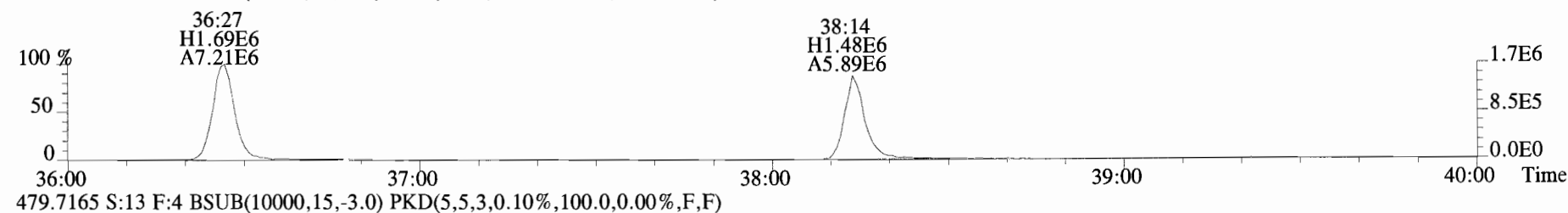
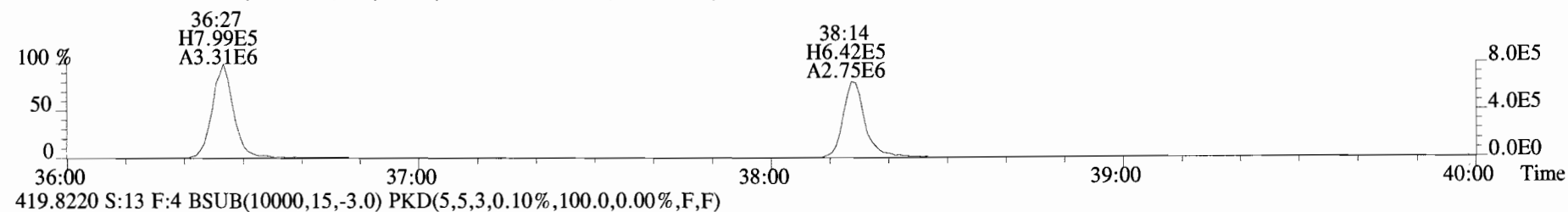
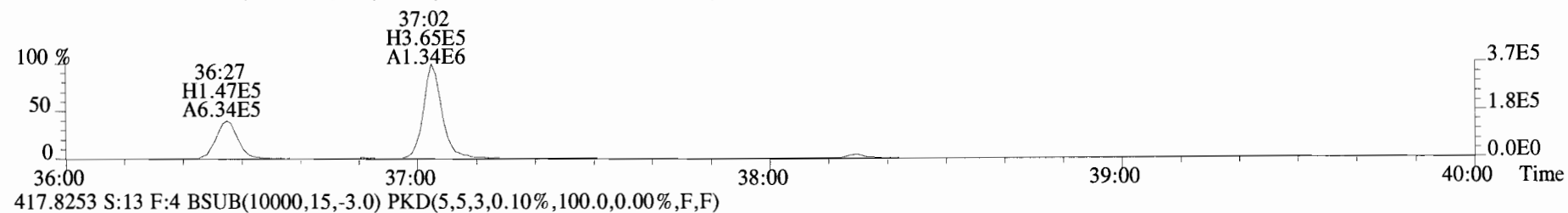
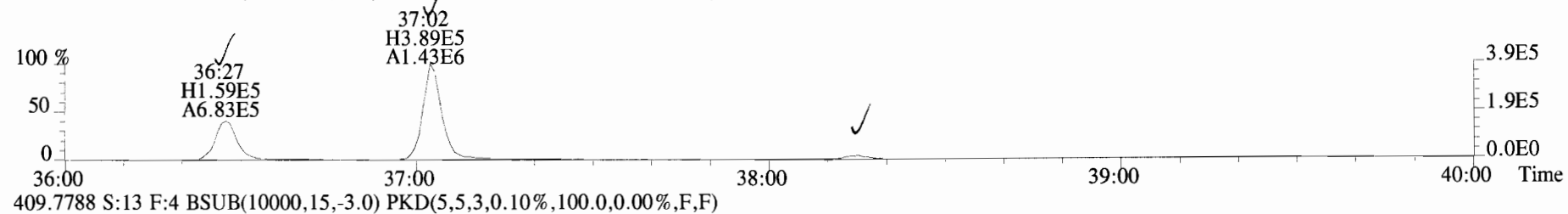
383.8639 S:13 F:3



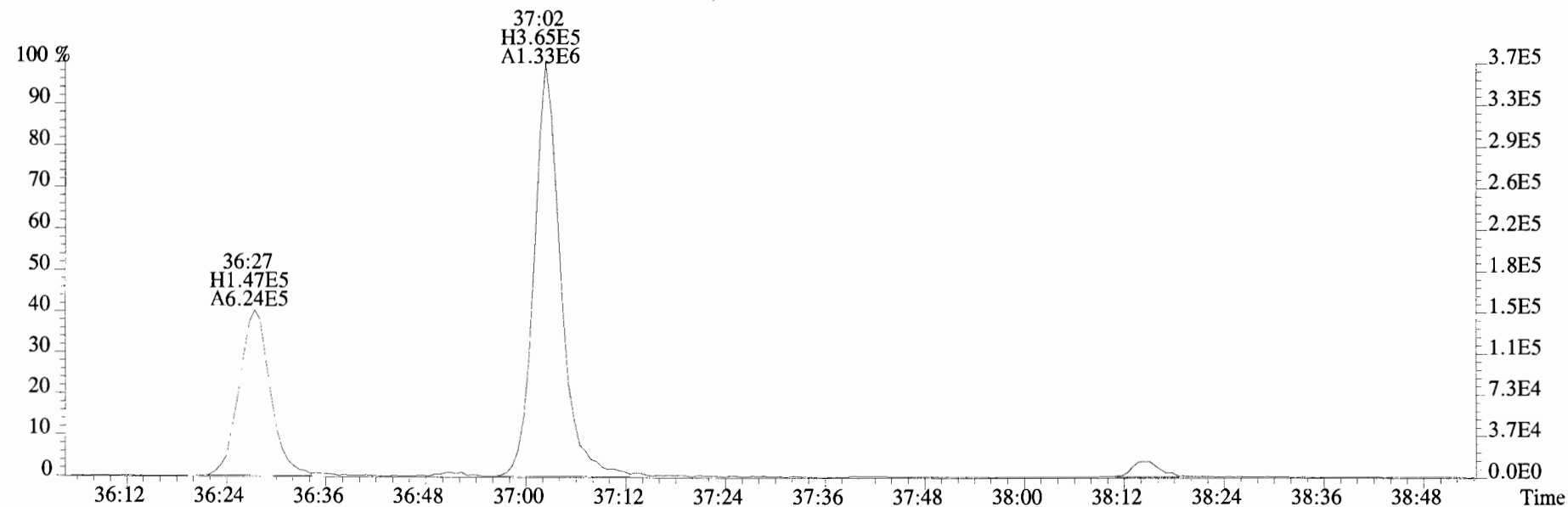
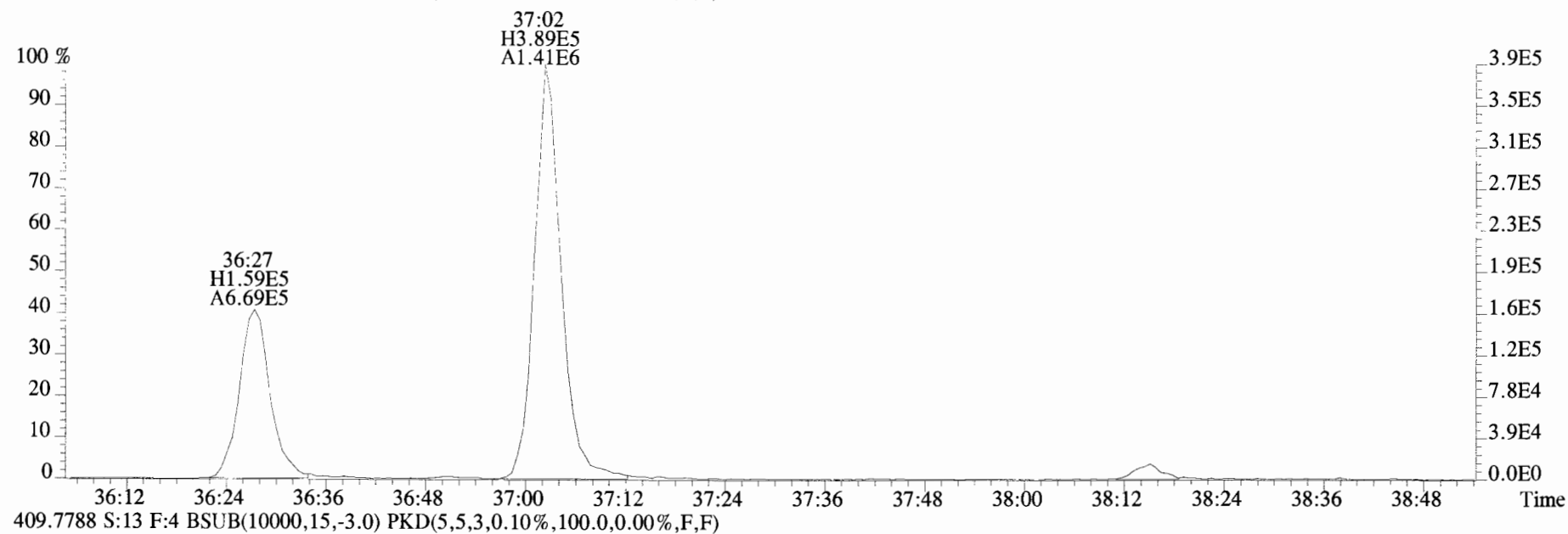
File:190627D1 #1-400 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



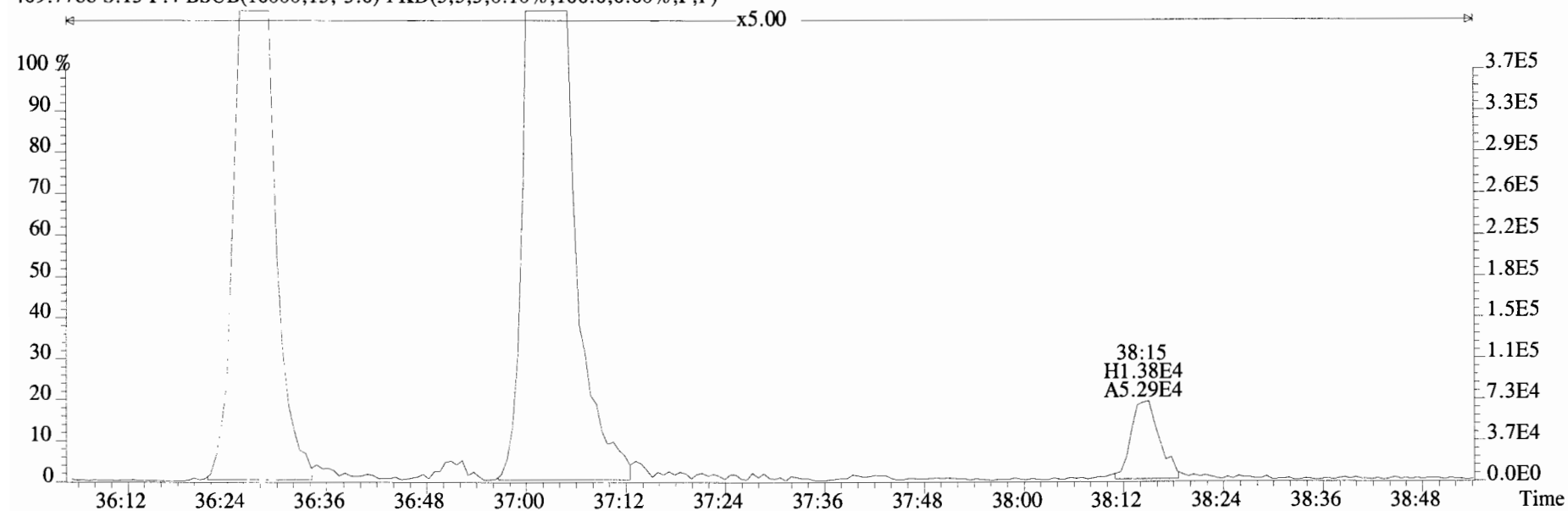
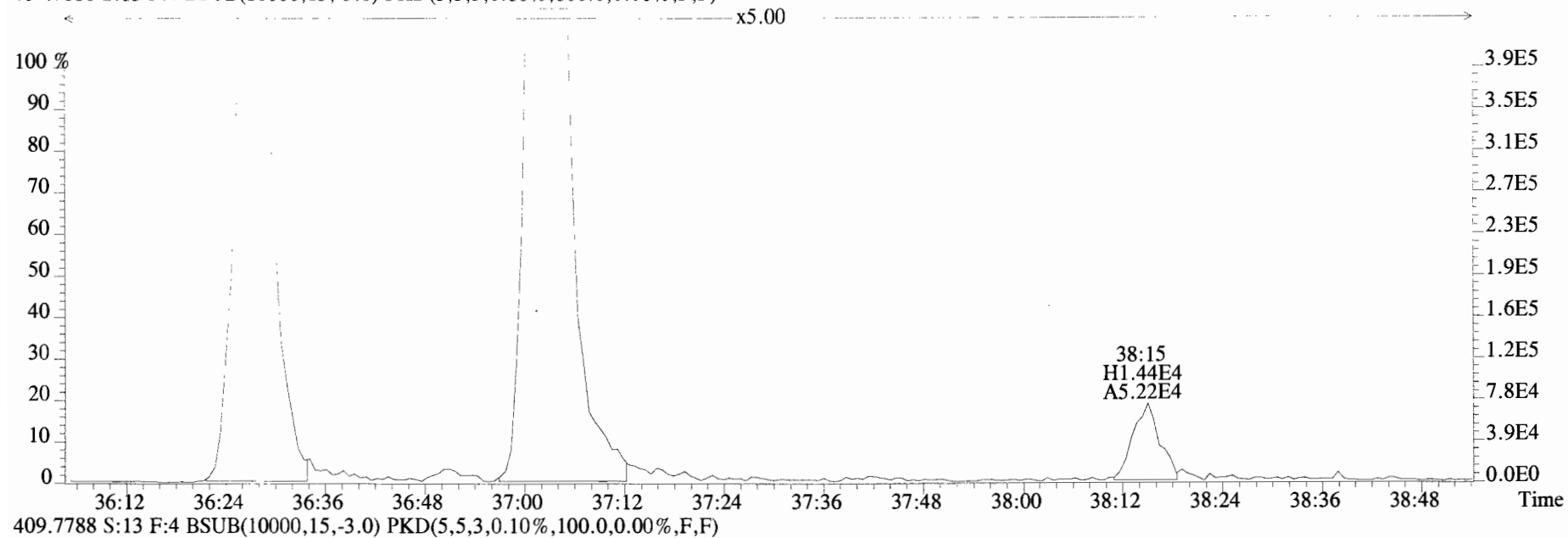
File:190627D1 #1-356 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
 407.7818 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



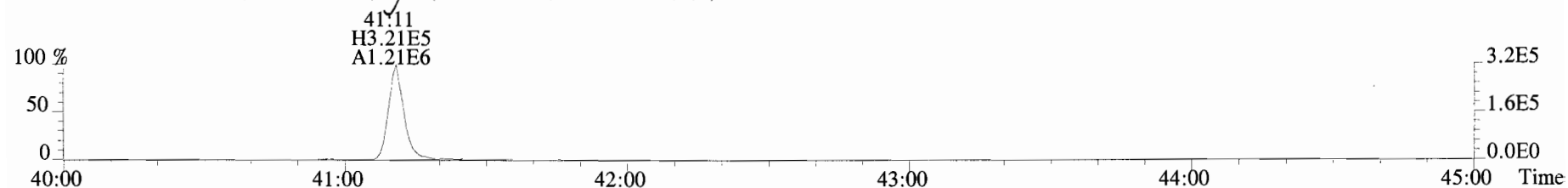
File:190627D1 #1-356 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
407.7818 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



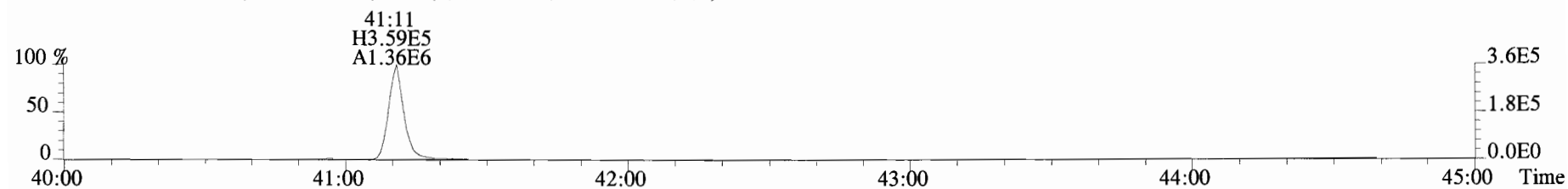
File:190627D1 #1-356 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
407.7818 S:13 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



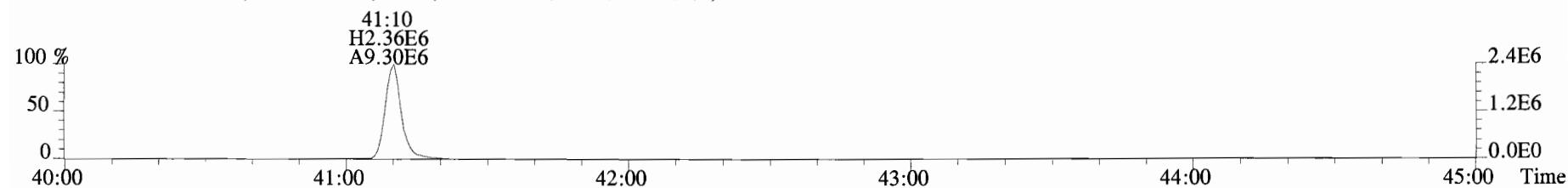
File:190627D1 #1-431 Acq:28-JUN-2019 02:29:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-07 T4-PDI2019-SC13-190521-03-05 6.88 Exp:OCDD_DB5
441.7428 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



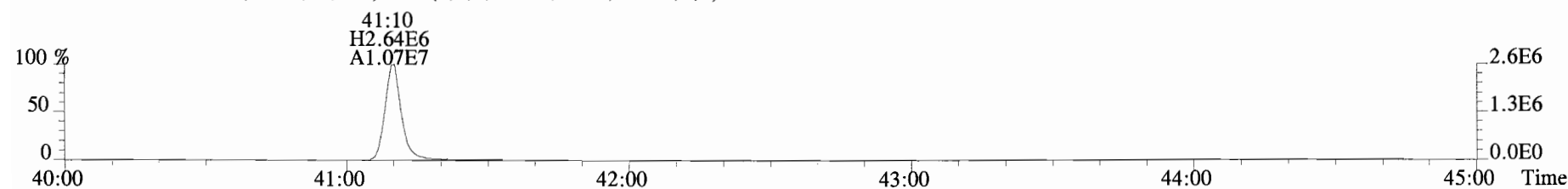
443.7398 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



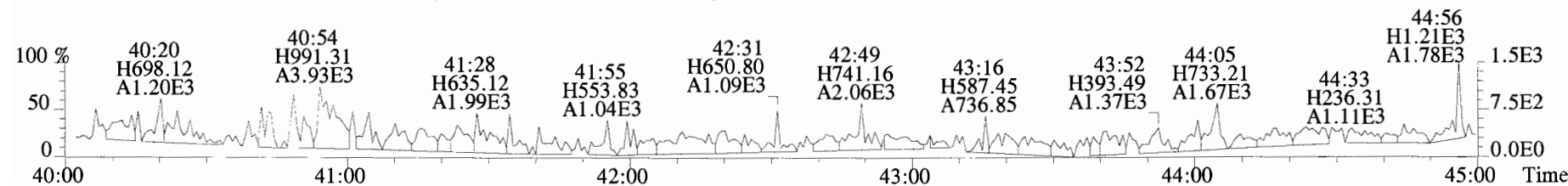
453.7831 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	* n	0.90	Not F ₇	*		166	2.5	0.215	Total Tetra-Dioxins	*	*		166	0.215
1,2,3,7,8-PeCDD	*	* n	0.87	Not F ₇	*		262	2.5	0.245	Total Penta-Dioxins	*	*		262	0.245
1,2,3,4,7,8-HxCDD	*	* n	1.05	Not F ₇	*		252	2.5	0.277	Total Hexa-Dioxins	*	0.584		*	*
1,2,3,6,7,8-HxCDD	*	* n	0.93	Not F ₇	*		252	2.5	0.277	Total Hepta-Dioxins	1.50	1.50		*	*
1,2,3,7,8,9-HxCDD	*	* n	0.96	Not F ₇	*		252	2.5	0.280	Total Tetra-Furans	*	*		163	0.163
1,2,3,4,6,7,8-HpCDD	1.26e+04	0.89 y	0.99	37:40	0.57630		*	2.5	*	Total Penta-Furans	0.0000	0.0000		220	0.220
OCDD	9.45e+04	0.98 y	0.99	40:57	4.7694		*	2.5	*	Total Hexa-Furans	*	*		161	0.0832
2,3,7,8-TCDF	*	* n	0.94	Not F ₇	*		163	2.5	0.163	Total Hepta-Furans	*	*		183	0.119
1,2,3,7,8-PeCDF	*	* n	0.92	Not F ₇	*		220	2.5	0.230						
2,3,4,7,8-PeCDF	*	* n	0.96	Not F ₇	*		220	2.5	0.210						
1,2,3,4,7,8-HxCDF	*	* n	1.15	Not F ₇	*		161	2.5	0.0726						
1,2,3,6,7,8-HxCDF	*	* n	1.04	Not F ₇	*		161	2.5	0.0706						
2,3,4,6,7,8-HxCDF	*	* n	1.10	Not F ₇	*		161	2.5	0.0749						
1,2,3,7,8,9-HxCDF	*	* n	1.03	Not F ₇	*		161	2.5	0.118						
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	Not F ₇	*		183	2.5	0.119						
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	Not F ₇	*		183	2.5	0.118						
OCDF	*	* n	0.94	Not F ₇	*		188	2.5	0.172						
IS	13C-2,3,7,8-TCDD	6.38e+06	0.80 y	1.11	26:04	194.27				Rec	Qual				
IS	13C-1,2,3,7,8-PeCDD	6.78e+06	0.64 y	0.98	30:32	233.88				50.7					
IS	13C-1,2,3,4,7,8-HxCDD	6.79e+06	1.27 y	0.68	33:48	288.94				61.1					
IS	13C-1,2,3,6,7,8-HxCDD	8.73e+06	1.27 y	0.84	33:55	298.11				75.4					
IS	13C-1,2,3,7,8,9-HxCDD	8.95e+06	1.24 y	0.81	34:14	316.72				77.8					
IS	13C-1,2,3,4,6,7,8-HpCDD	8.46e+06	1.08 y	0.69	37:40	354.31				82.7					
IS	13C-OCDD	1.54e+07	0.92 y	0.62	40:57	708.02				92.5					
IS	13C-2,3,7,8-TCDF	8.24e+06	0.80 y	1.05	25:18	160.06				92.4					
IS	13C-1,2,3,7,8-PeCDF	9.63e+06	1.62 y	0.95	29:22	206.06				41.8					
IS	13C-2,3,4,7,8-PeCDF	9.07e+06	1.62 y	0.94	30:16	198.07				53.8					
IS	13C-1,2,3,4,7,8-HxCDF	9.07e+06	0.52 y	0.86	32:55	304.05				51.7					
IS	13C-1,2,3,6,7,8-HxCDF	1.14e+07	0.52 y	1.02	33:03	319.29				79.4					
IS	13C-2,3,4,6,7,8-HxCDF	1.12e+07	0.51 y	0.95	33:40	337.53				83.4					
IS	13C-1,2,3,7,8,9-HxCDF	1.02e+07	0.52 y	0.87	34:38	336.64				88.1					
IS	13C-1,2,3,4,6,7,8-HpCDF	9.84e+06	0.46 y	0.81	36:26	349.89				87.9					
IS	13C-1,2,3,4,7,8,9-HpCDF	7.97e+06	0.46 y	0.63	38:14	362.46				91.3					
IS	13C-OCDF	1.95e+07	0.88 y	0.78	41:11	716.88				94.6					
C/Up	37C1-2,3,7,8-TCDD	2.62e+06		1.22	26:05	72.500				93.6					
RS/RT	13C-1,2,3,4-TCDD	1.14e+07	0.77 y	1.00	25:29	383.07				47.3					
RS	13C-1,2,3,4-TCDF	1.87e+07	0.82 y	1.00	24:04	383.07					Integrations				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.33e+07	0.51 y	1.00	33:20	383.07					by	Reviewed			
											Analyst: <u>DB</u>	by			
												Analyst: <u>CT</u>			
											Date: <u>7/30/19</u>	Date: <u>08/08/19</u>			

Totals class: HxCDD EMPC

Entry #: 23

Run: 19

File: 190627D1

S: 14 I: 1 F: 3

Acquired: 28-JUN-19 03:17:42

Processed: 28-JUN-19 08:58:16

Total Concentration: 0.58381

Unnamed Concentration: 0.584

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:17	6.716e+03	7.204e+03	0.93 n	1.213e+04	0.58381

Totals class: HpCDD EMPC

Entry #: 25

Run: 19

File: 190627D1

S: 14 I: 1 F: 4

Acquired: 28-JUN-19 03:17:42

Processed: 28-JUN-19 08:58:16

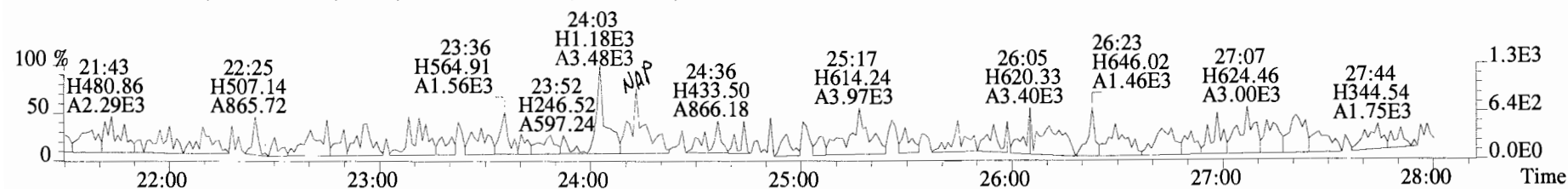
Total Concentration: 1.4993

Unnamed Concentration: 0.923

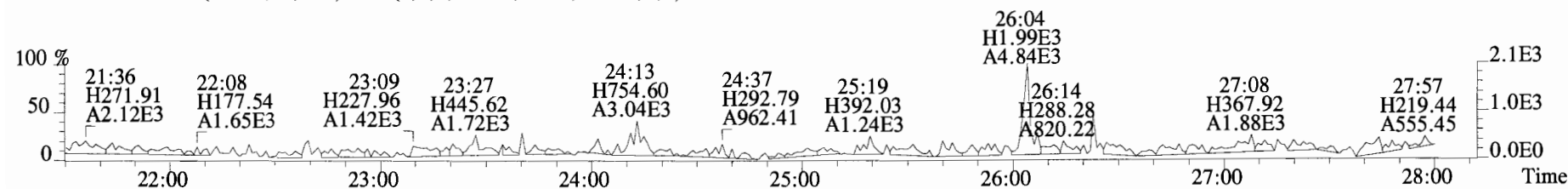
RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:50	9.884e+03	1.026e+04	0.96 y	2.015e+04	0.92300
37:40	5.933e+03	6.646e+03	0.89 y	1.258e+04	0.57630

1,2,3,4,6,7,8-HpCDD

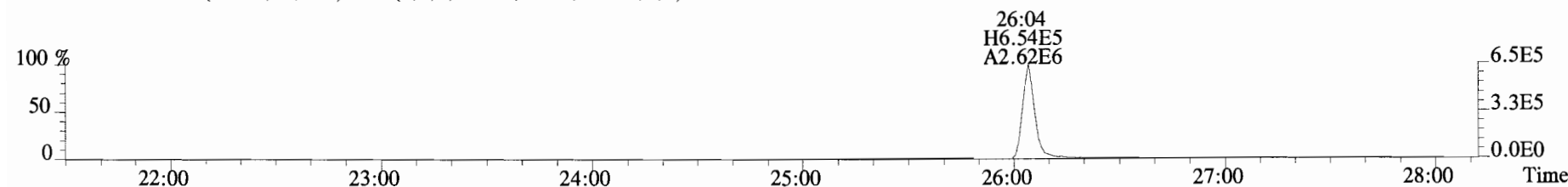
File:190627D1 #1-513 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
319.8965 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



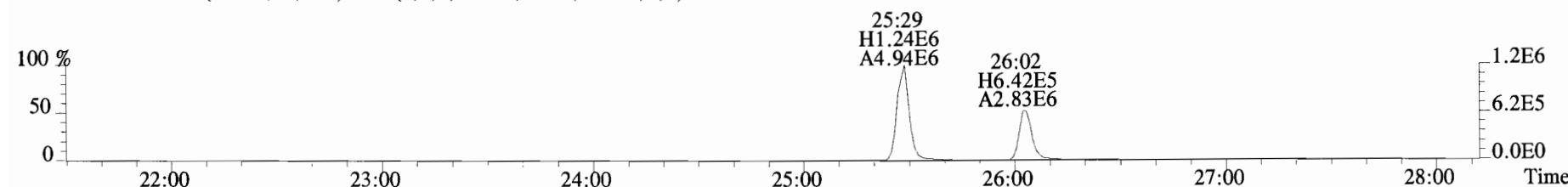
321.8936 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



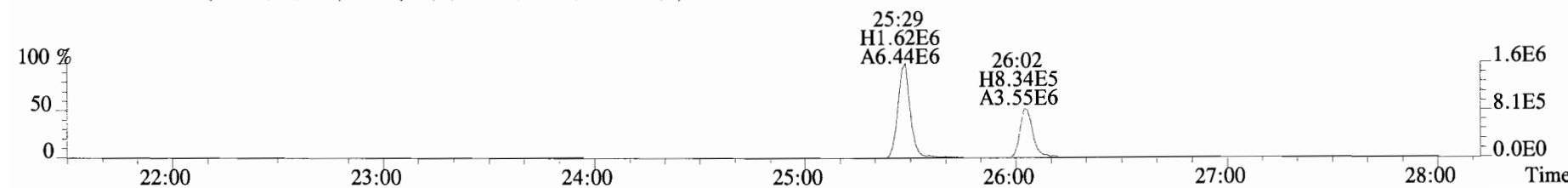
327.8847 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



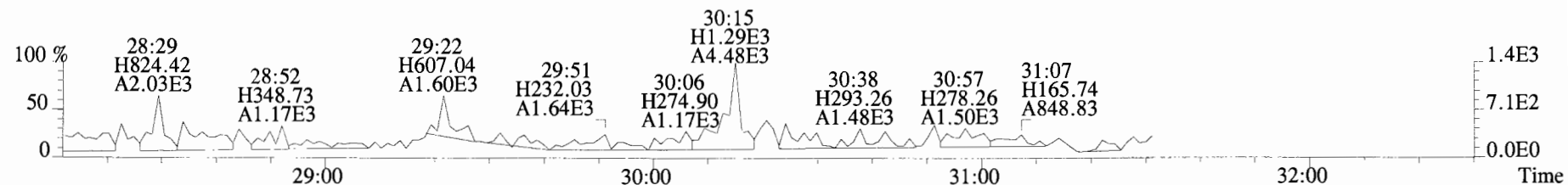
331.9368 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



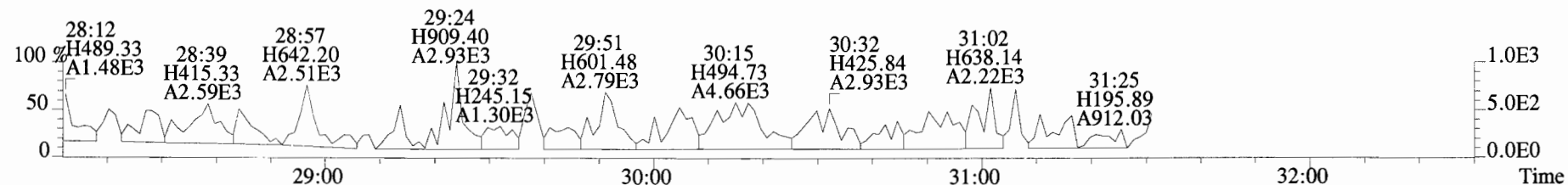
333.9339 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



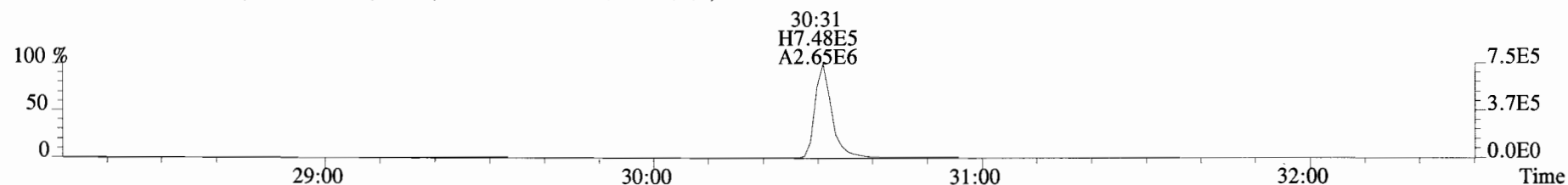
File:190627D1 #1-185 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
353.8576 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



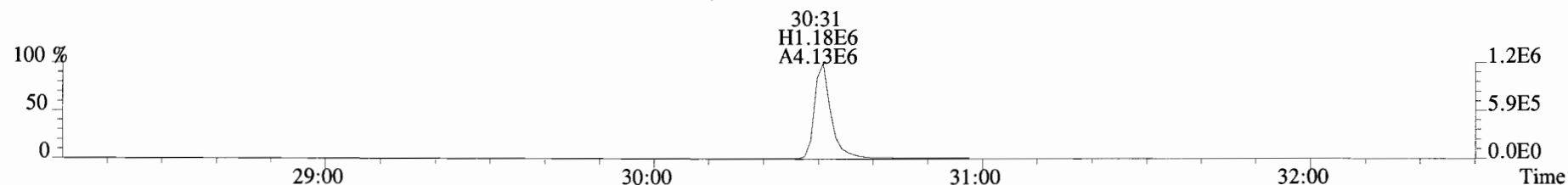
355.8546 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



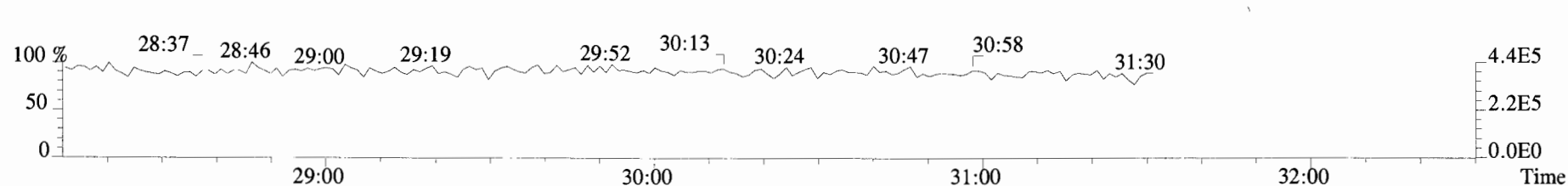
365.8978 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



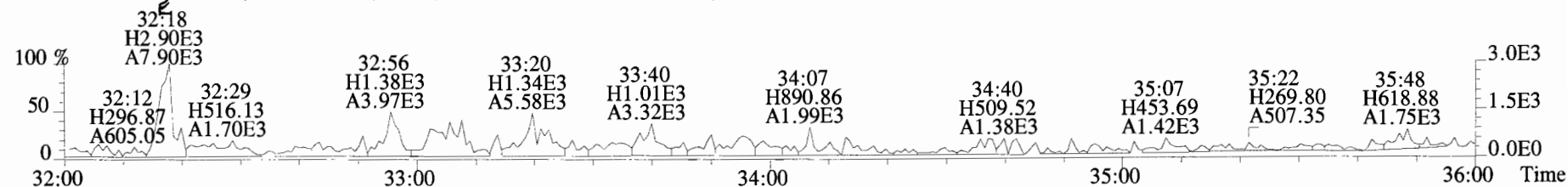
367.8949 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



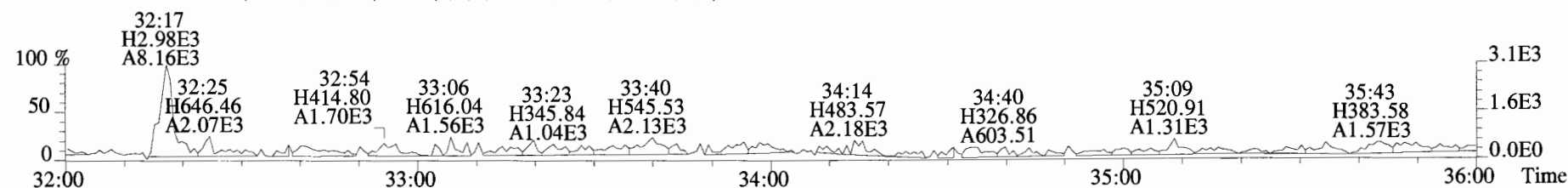
366.9792 S:14 F:2



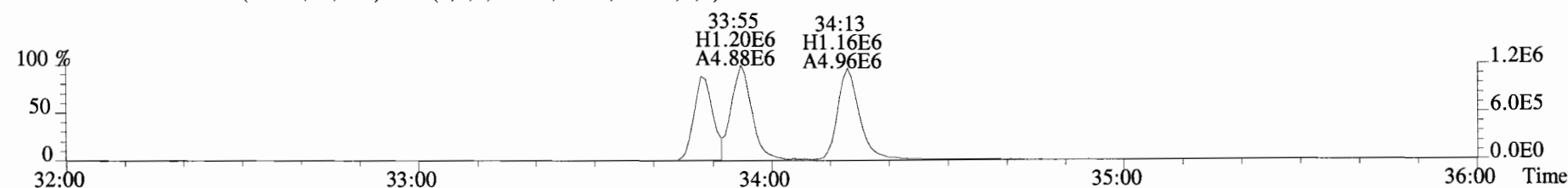
File:190627D1 #1-399 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
389.8156 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



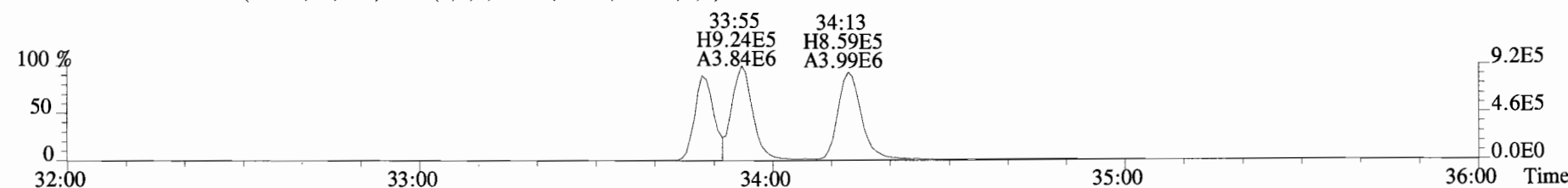
391.8127 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



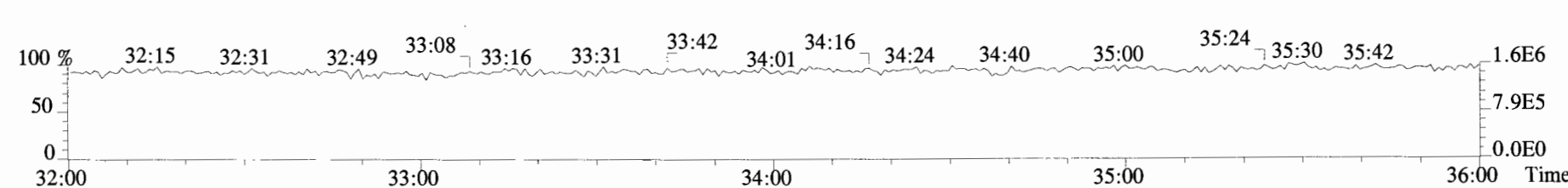
401.8559 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



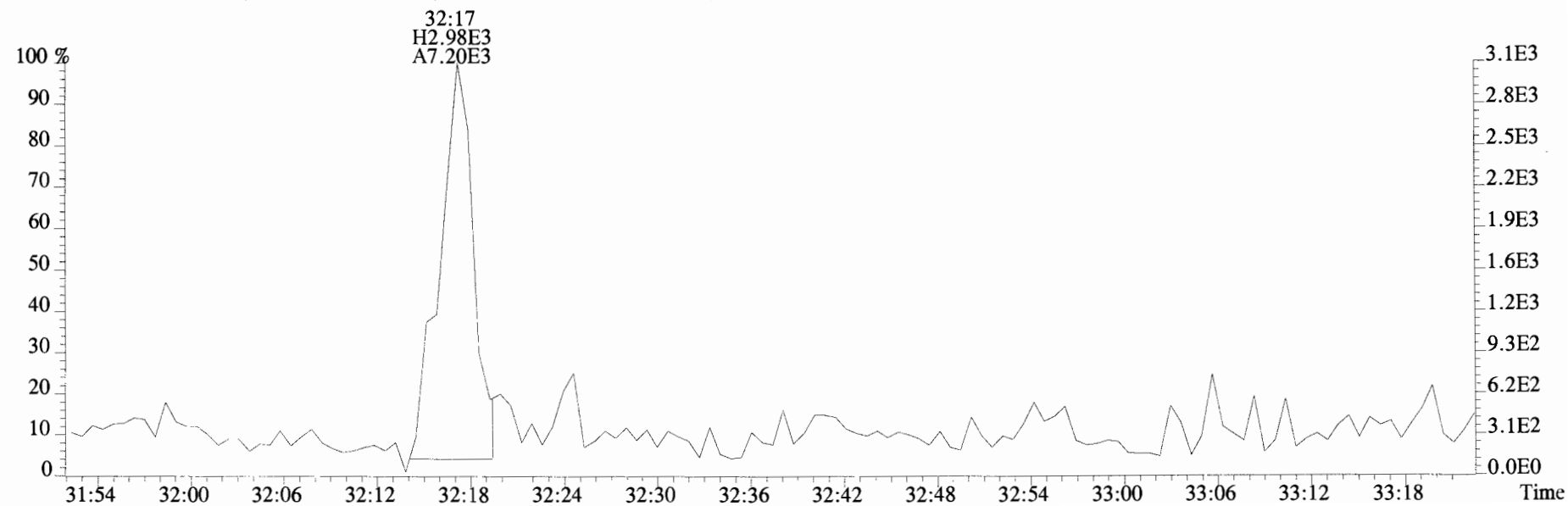
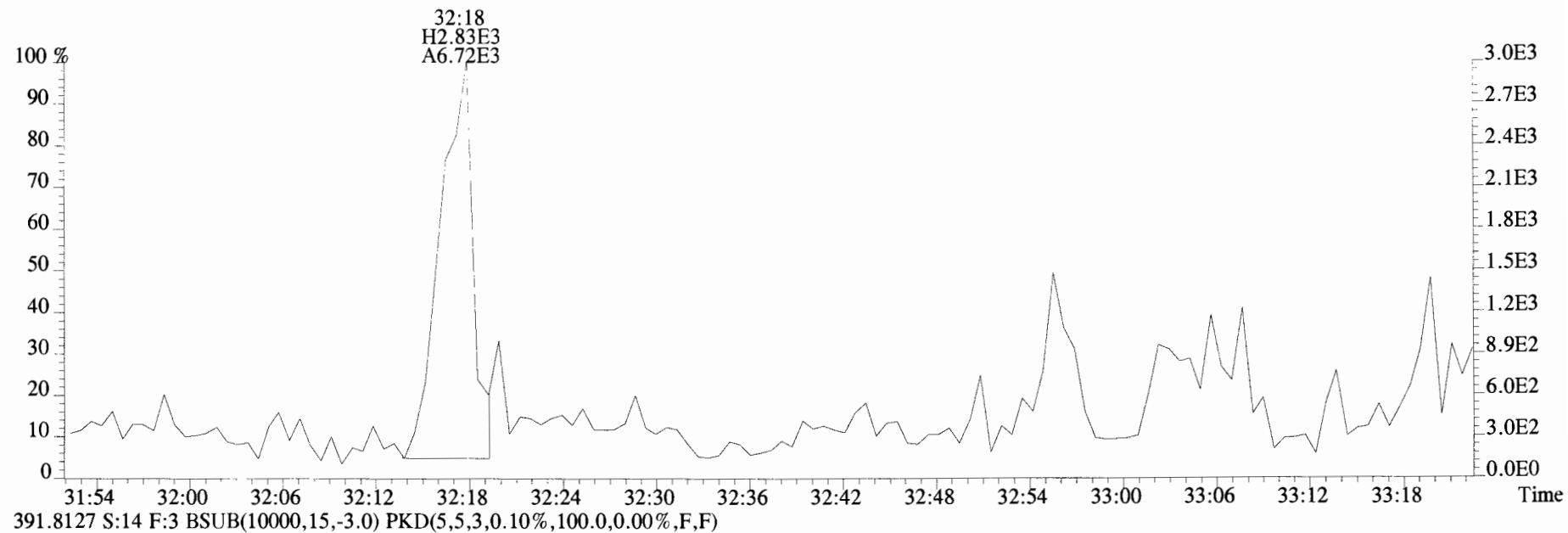
403.8530 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



392.9760 S:14 F:3



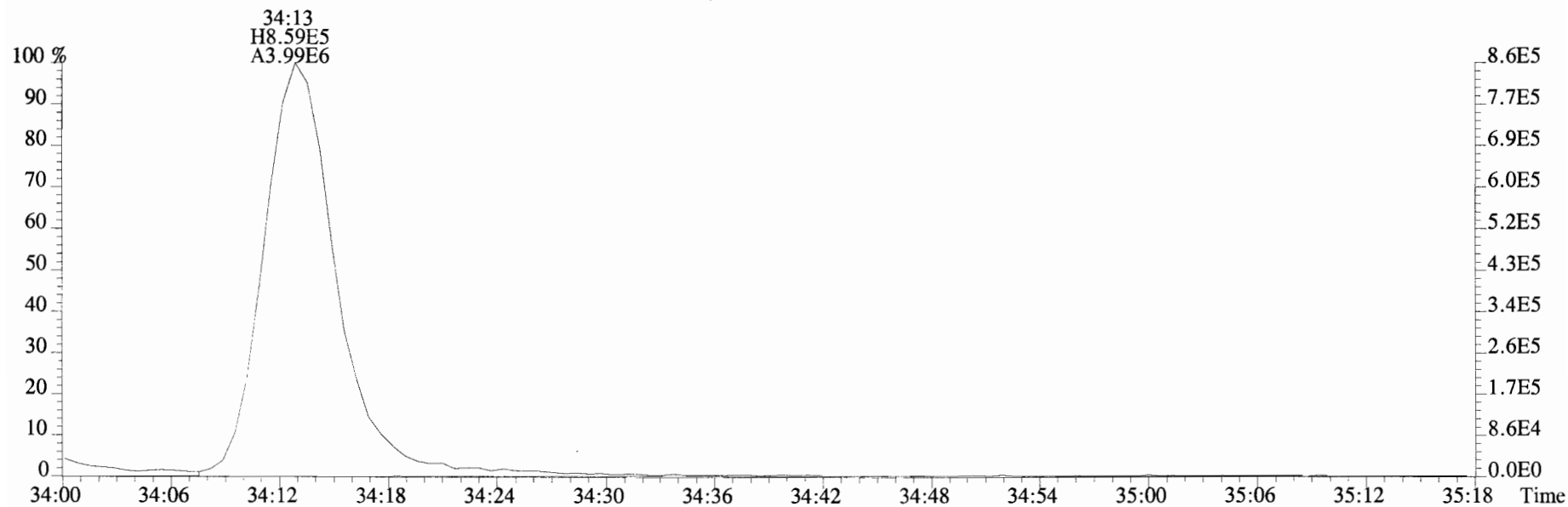
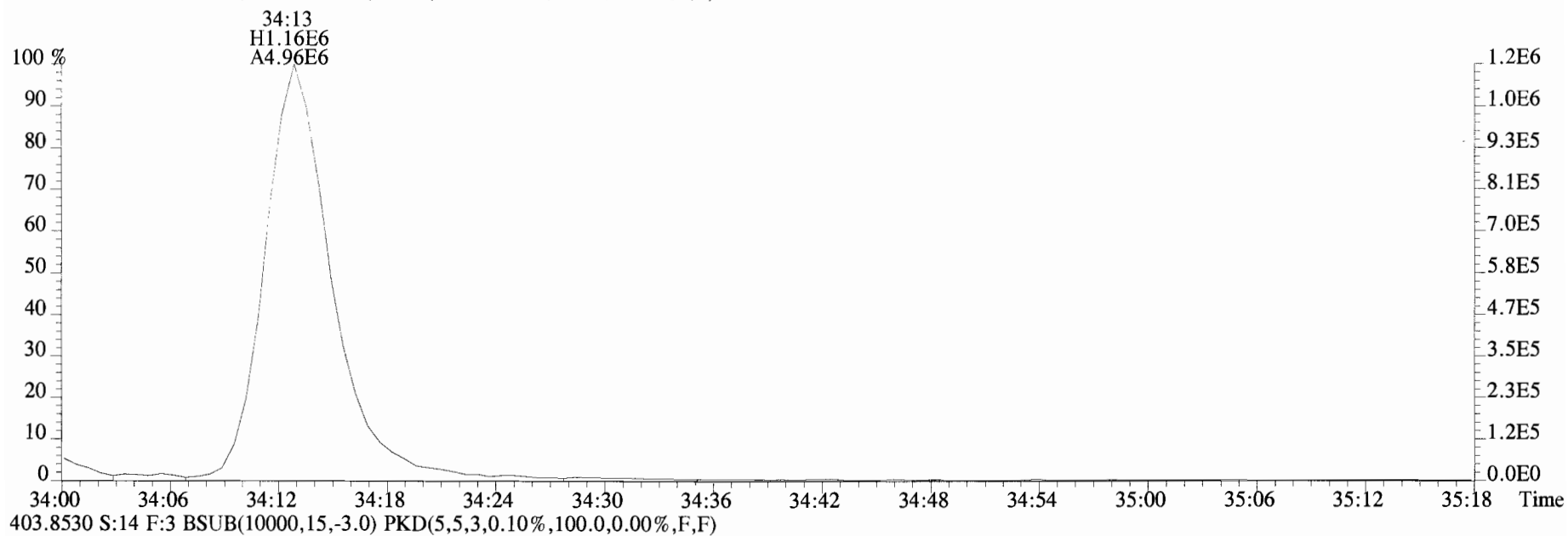
File:190627D1 #1-399 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
389.8156 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



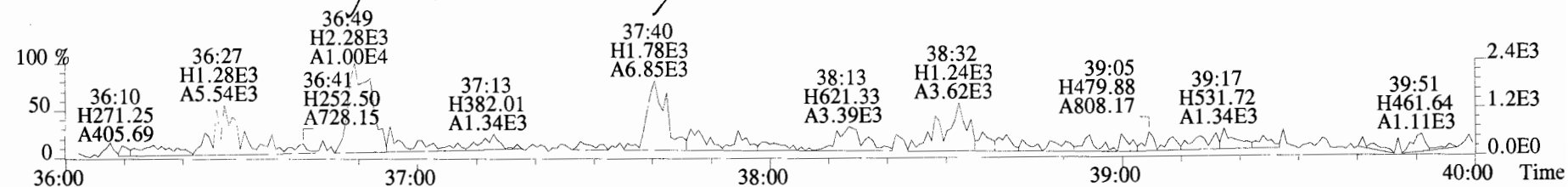
File:190627D1 #1-399 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE

Sample#14 File Text:Vista Analytical_Laboratory_VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5

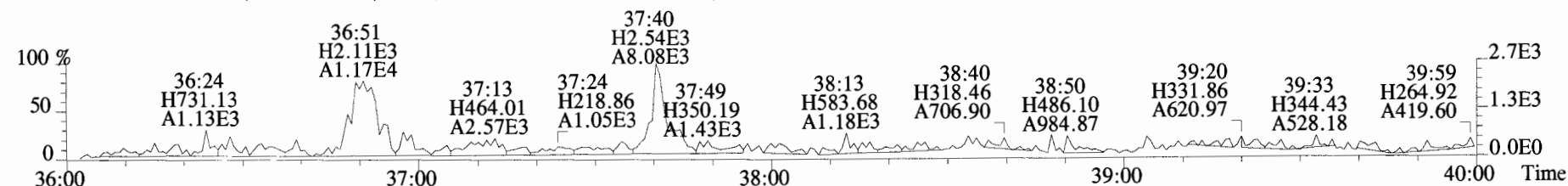
401.8559 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



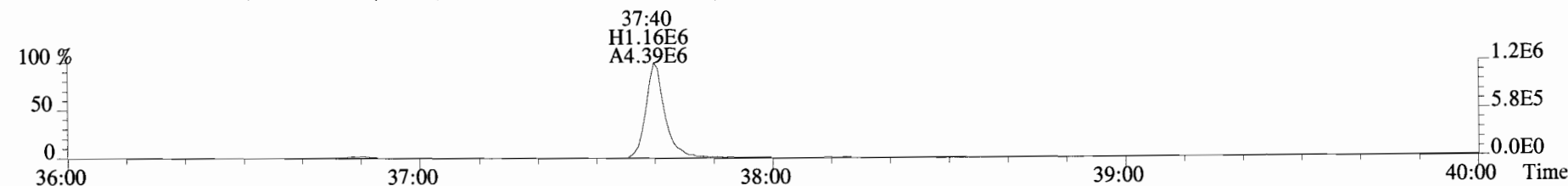
File:190627D1 #1-355 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
423.7767 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



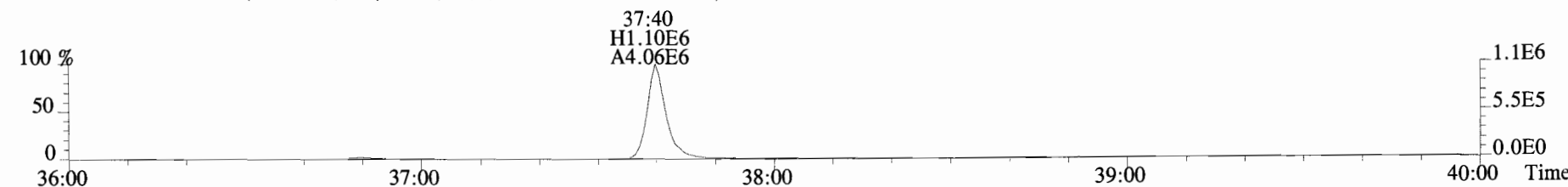
425.7737 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



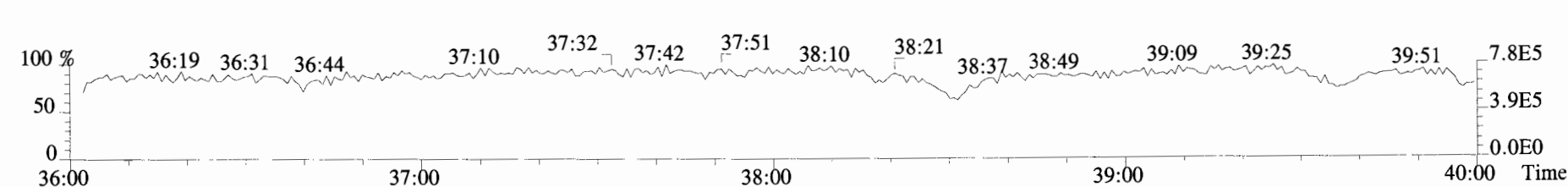
435.8169 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



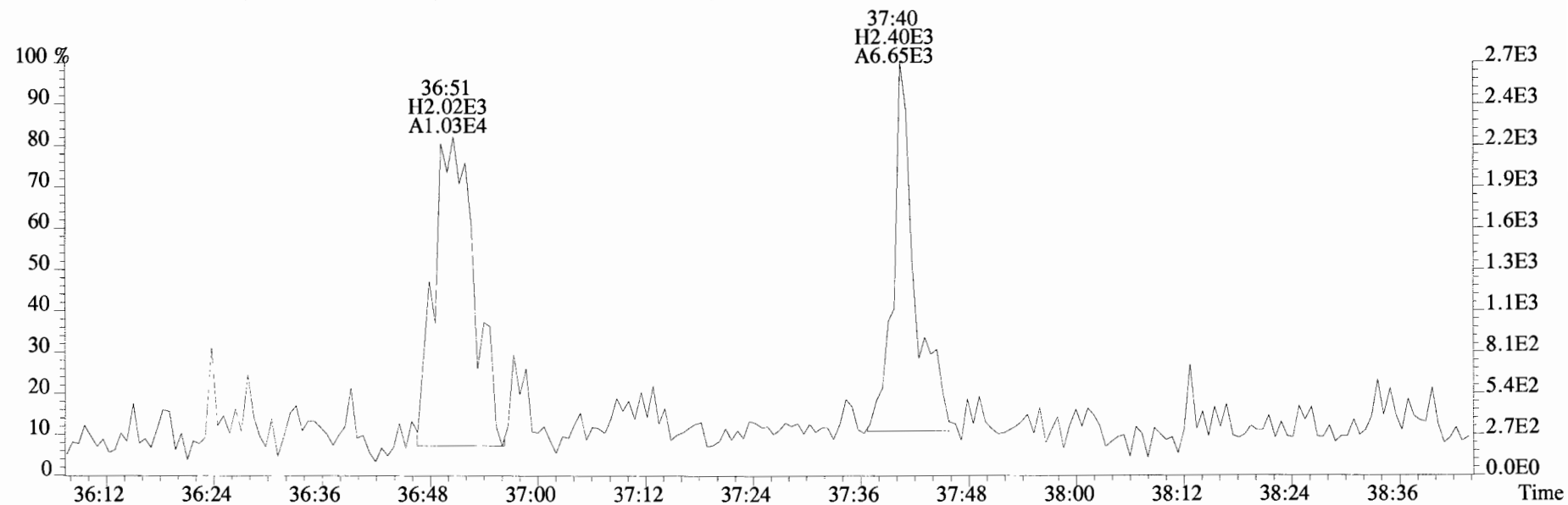
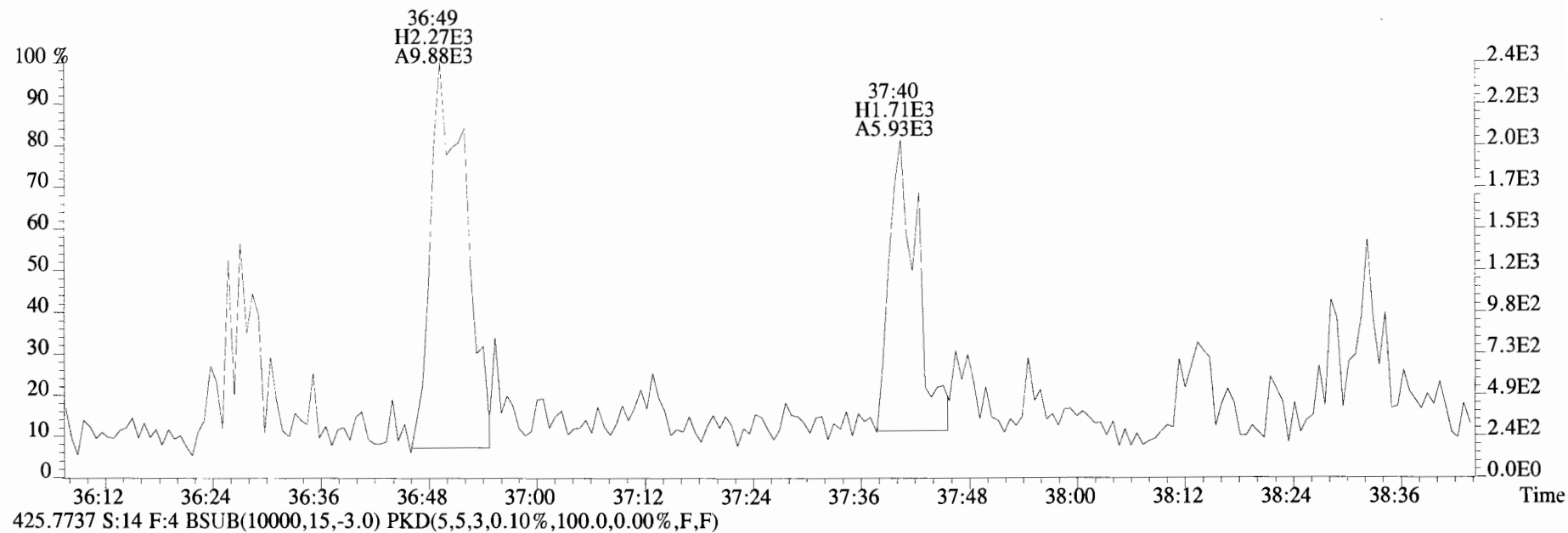
437.8140 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



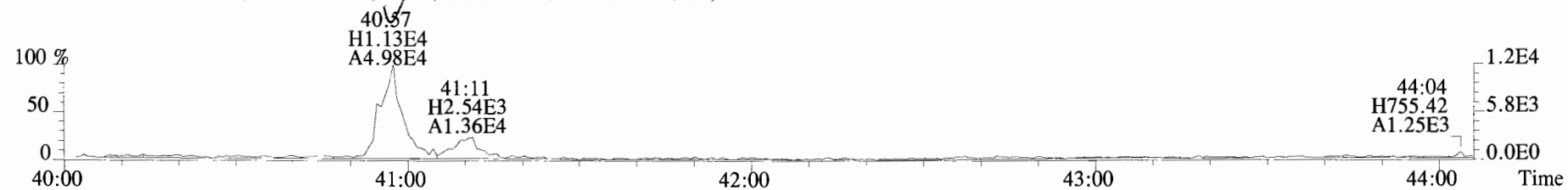
454.9728 S:14 F:4



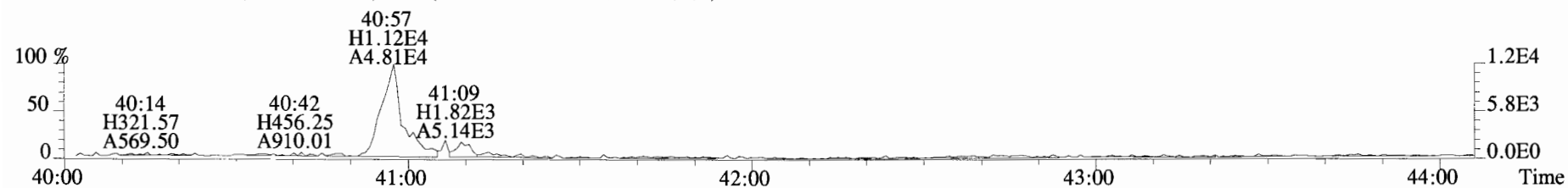
File:190627D1 #1-355 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
423.7767 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



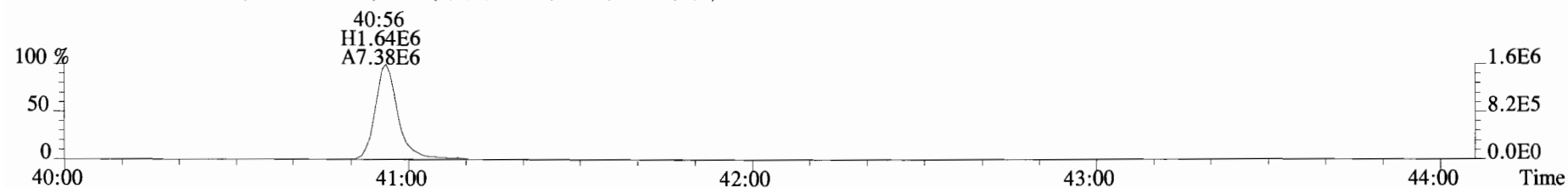
File:190627D1 #1-432 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
457.7377 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



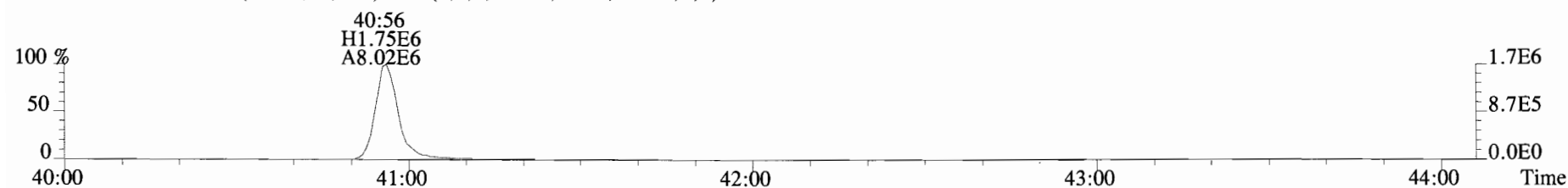
459.7348 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



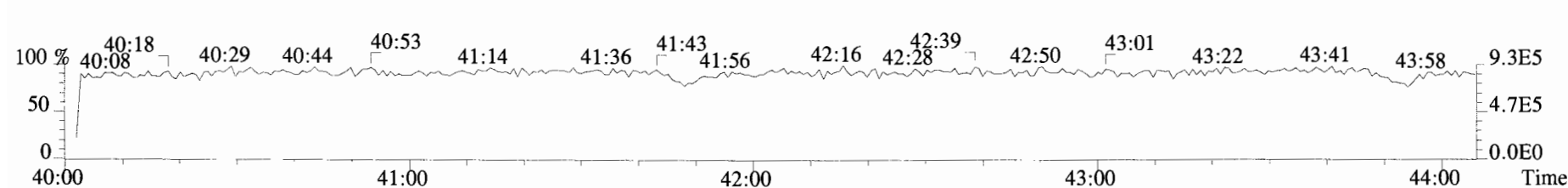
469.7780 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



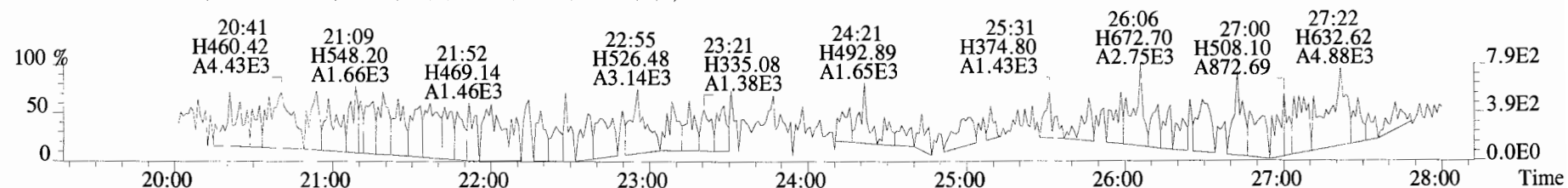
471.7750 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



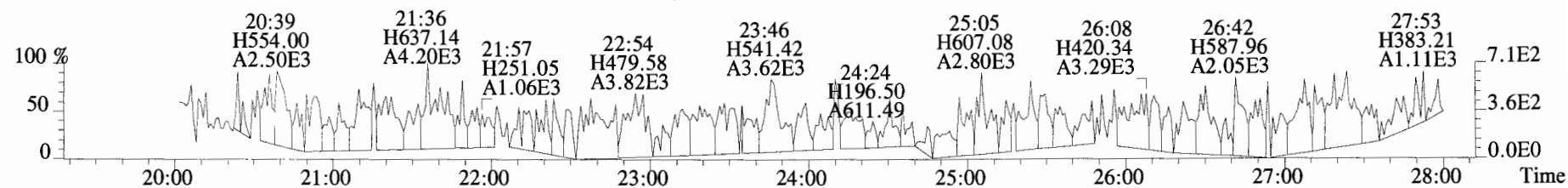
454.9728 S:14 F:5



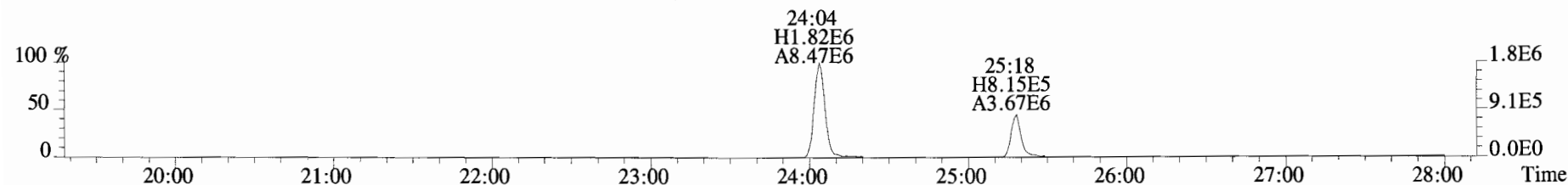
File:190627D1 #1-513 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
303.9016 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



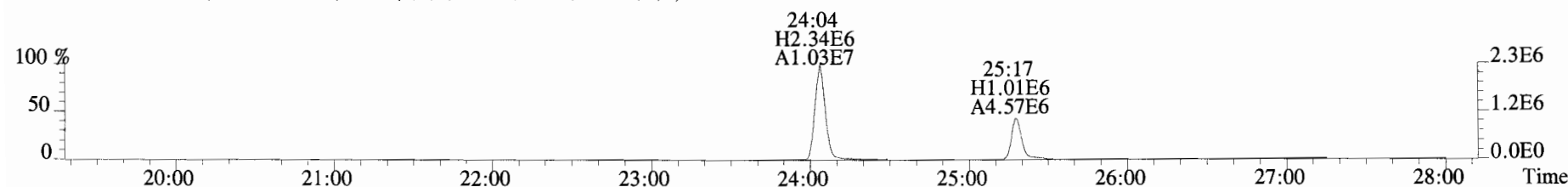
305.8987 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



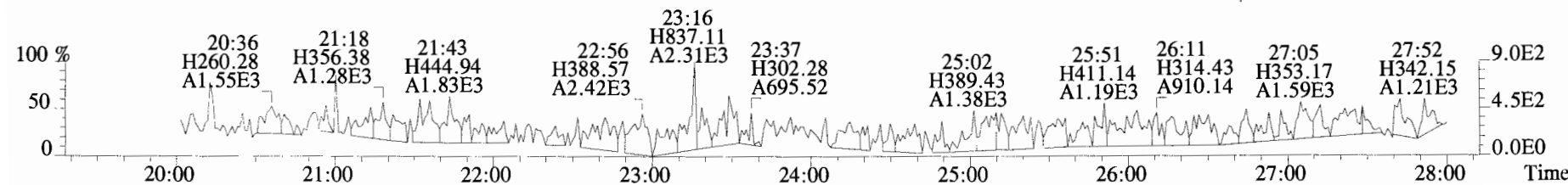
315.9419 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



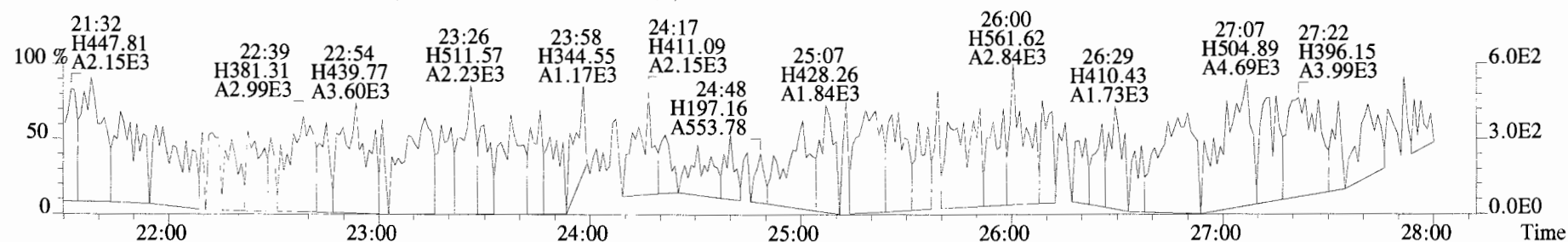
317.9389 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



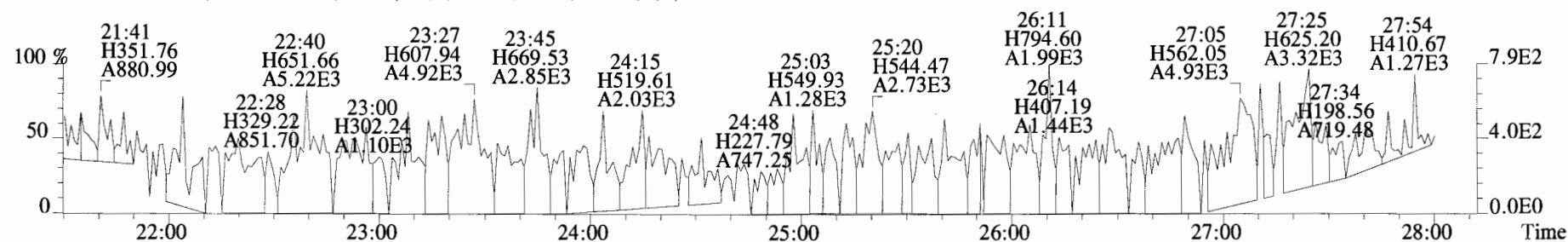
375.8364 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



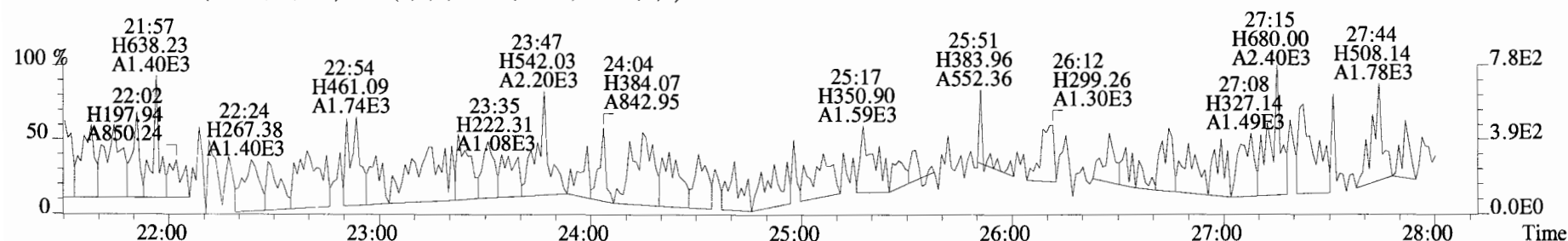
File:190627D1 #1-513 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
339.8597 S:14 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



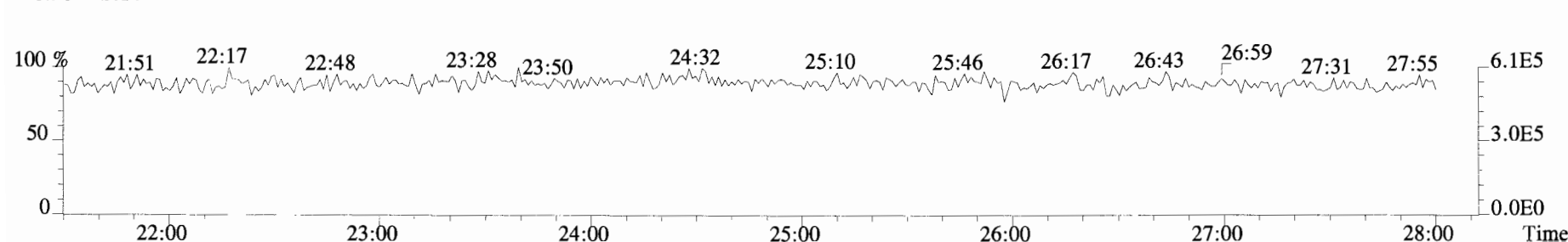
341.8568 S:14 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



409.7974 S:14 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



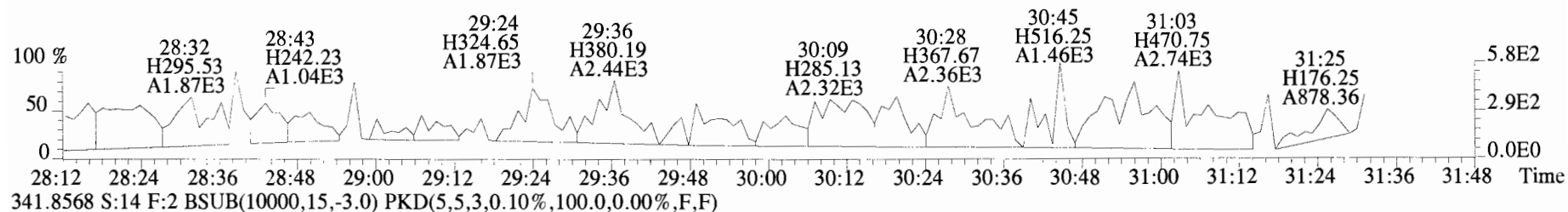
316.9824 S:14



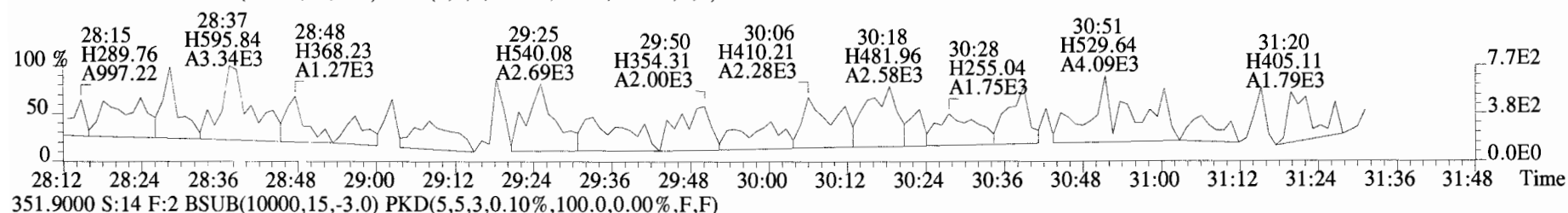
File:190627D1 #1-185 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE

Sample#14 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5

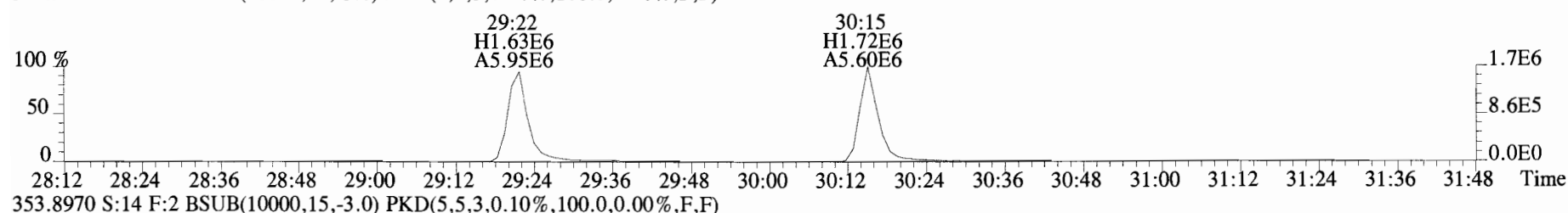
339.8597 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



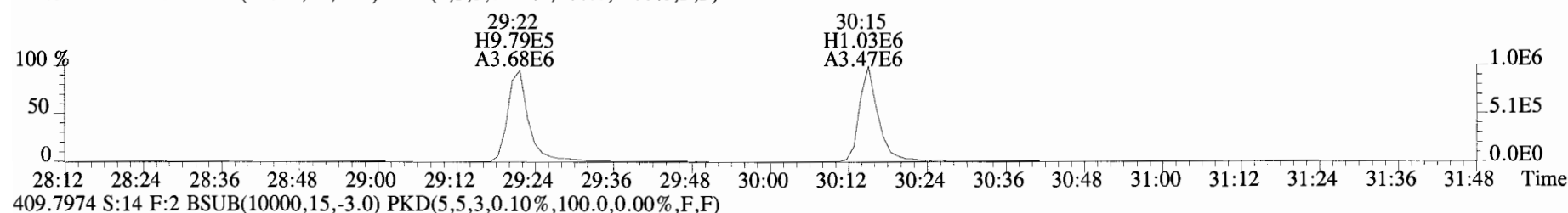
341.8568 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



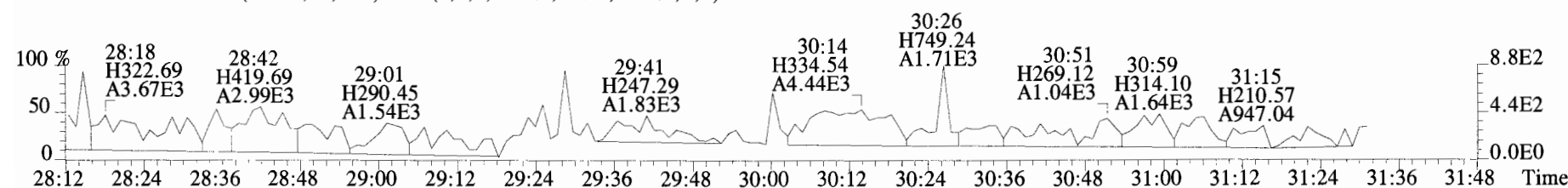
351.9000 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



353.8970 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

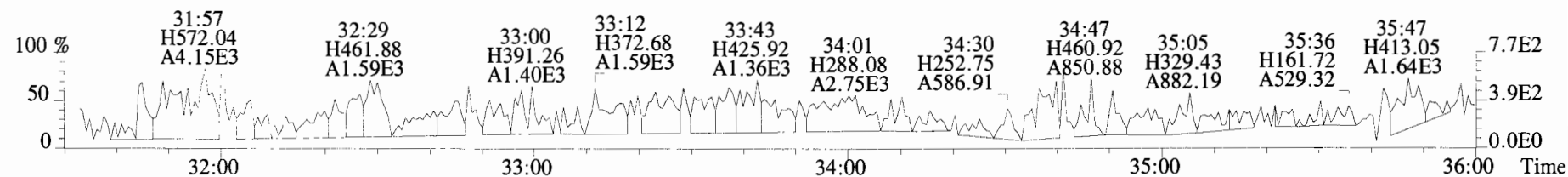


409.7974 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

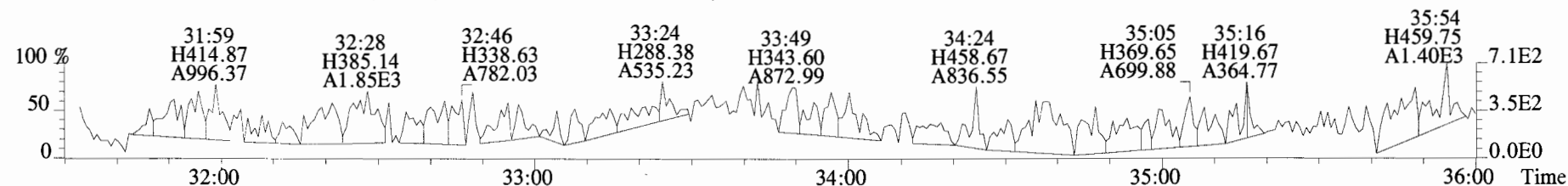


28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00 31:12 31:24 31:36 31:48 Time

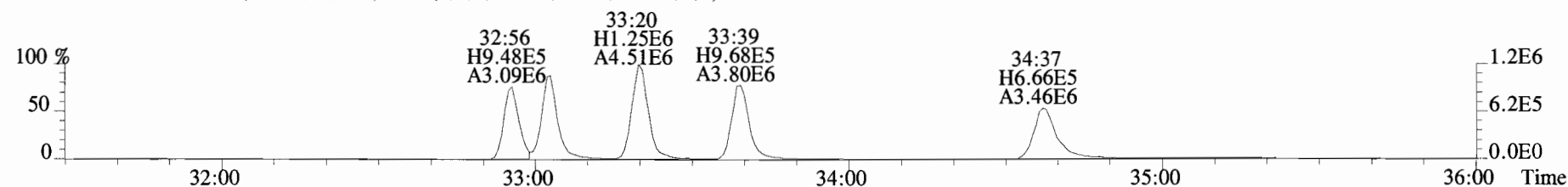
File:190627D1 #1-399 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
373.8207 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



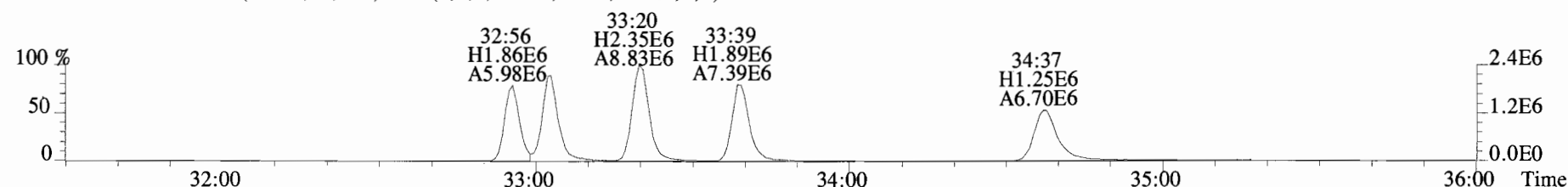
375.8178 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



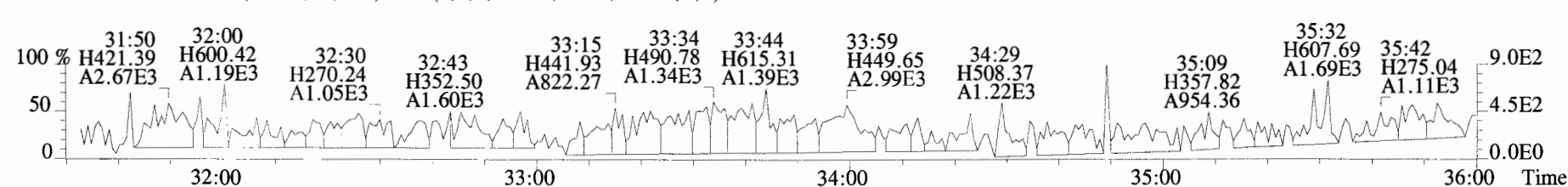
383.8639 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



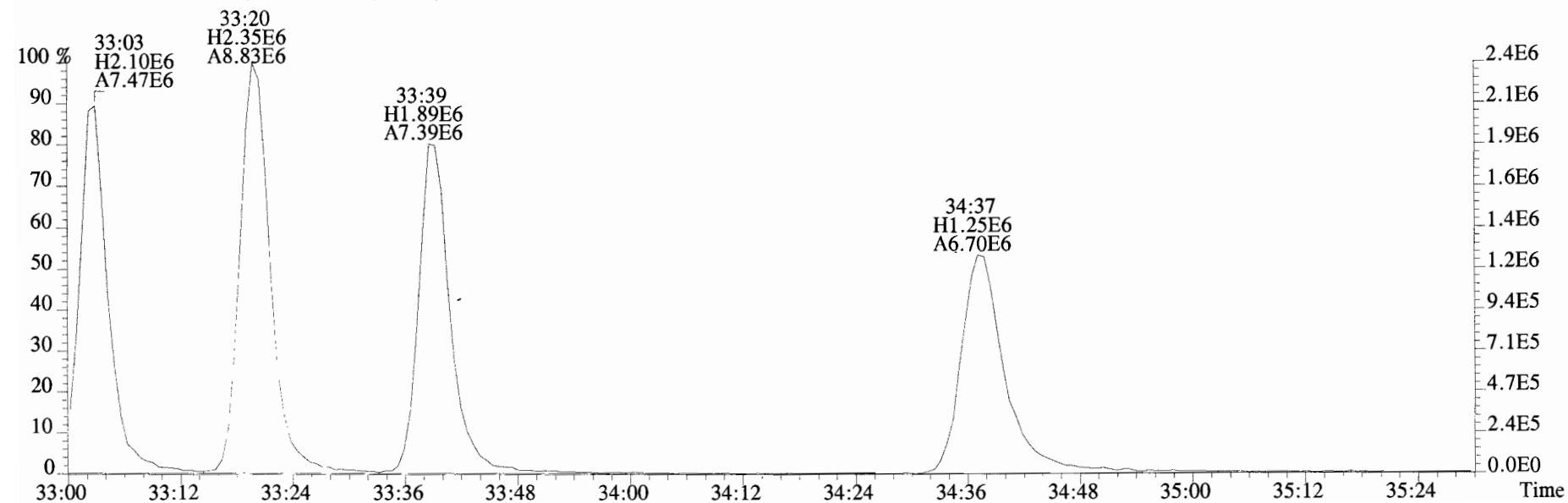
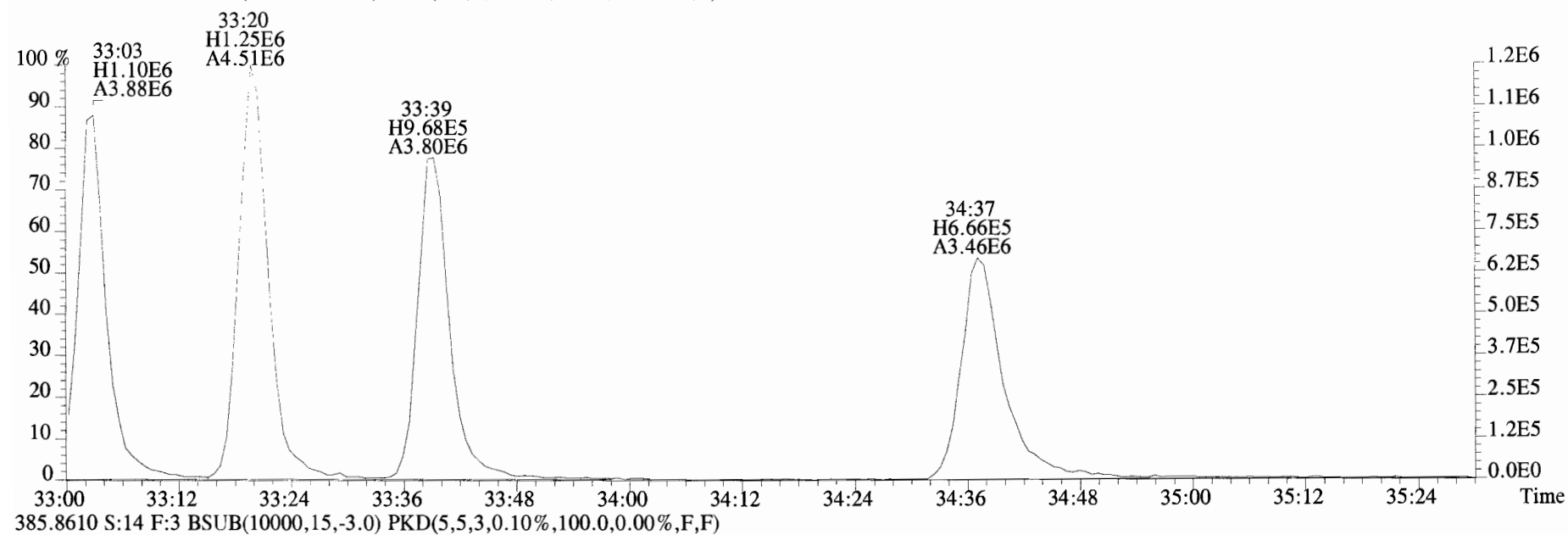
385.8610 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



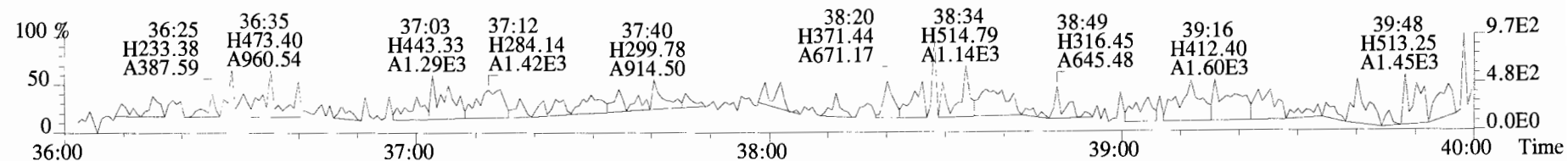
445.7555 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



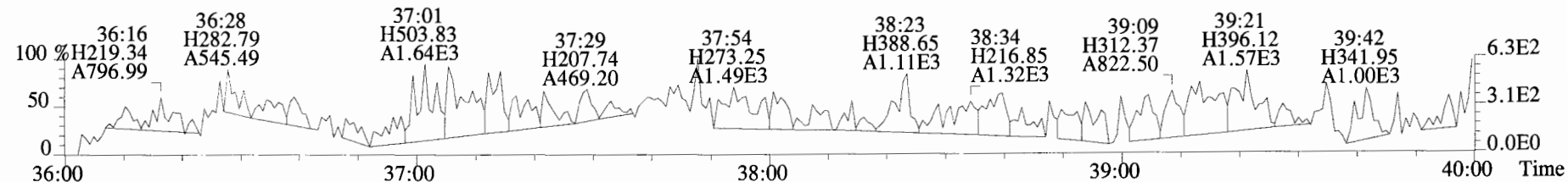
File:190627D1 #1-399 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
 383.8639 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



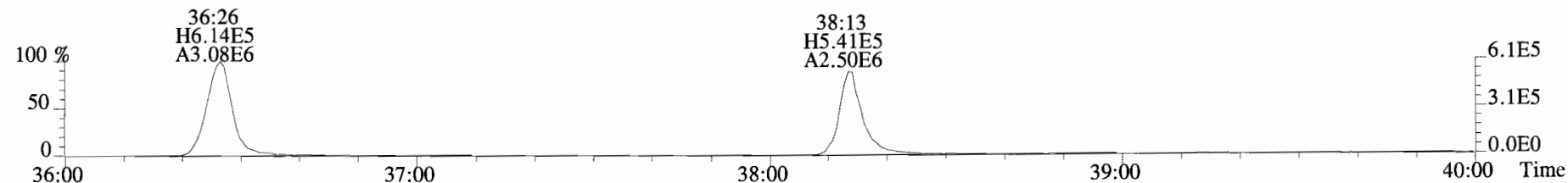
File:190627D1 #1-355 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5
407.7818 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



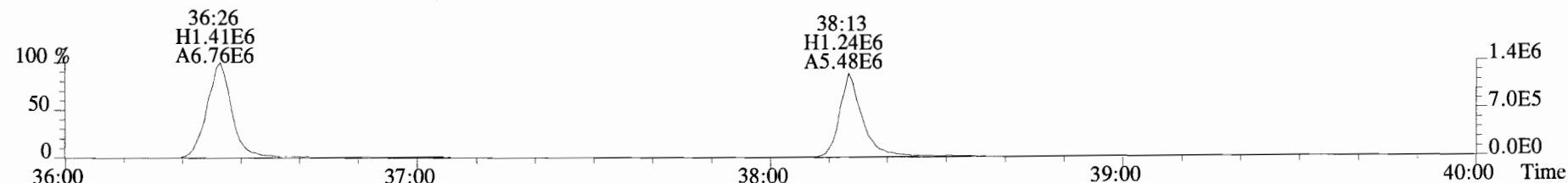
409.7788 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



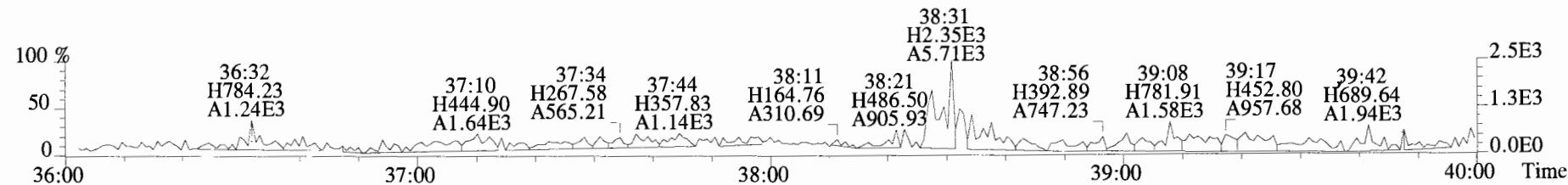
417.8253 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



419.8220 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



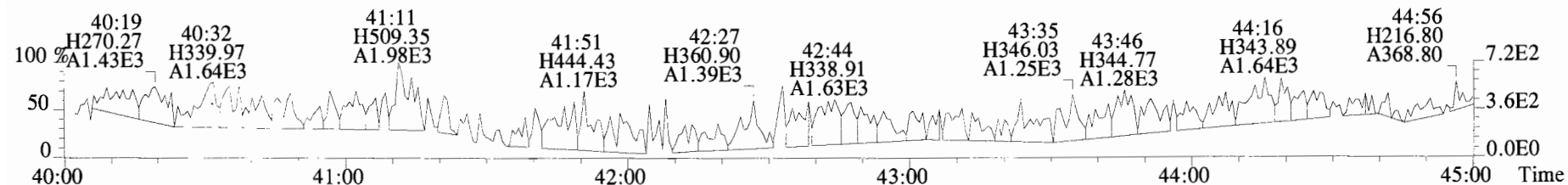
479.7165 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



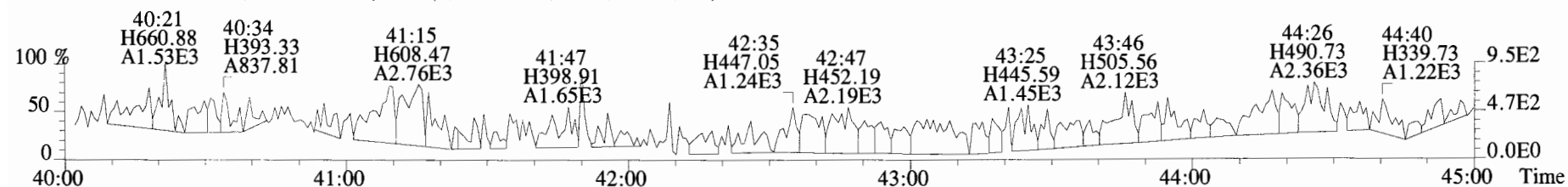
File:190627D1 #1-432 Acq:28-JUN-2019 03:17:42 GC EI+ Voltage SIR Autospec-UltimaE

Sample#14 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-08 T4-PDI2019-SC13-190521-05-07 7.8 Exp:OCDD_DB5

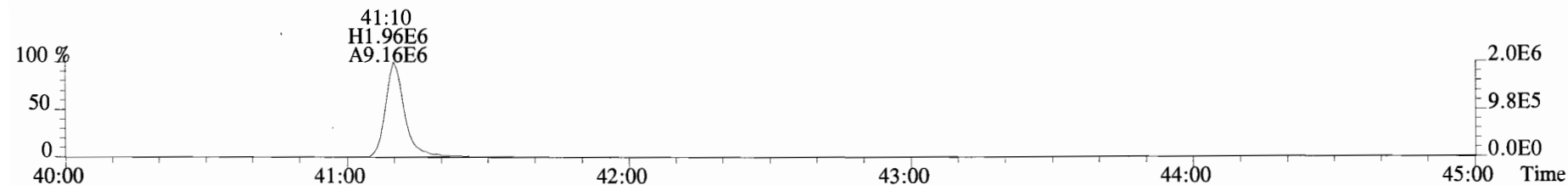
441.7428 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



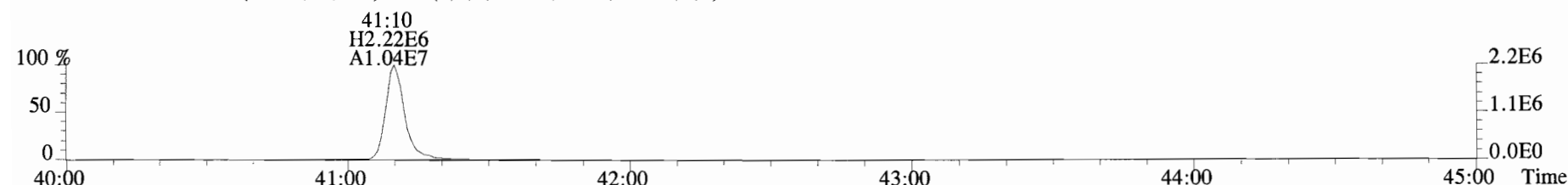
443.7398 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



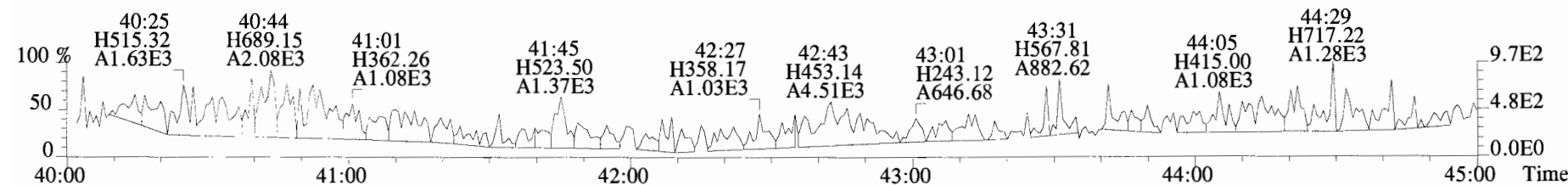
453.7831 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC13-190521 Filename: 190712D1 S:9 Acq:12-JUL-19 19:56:54
Lab ID: 1901246-09RE1 GC Column ID: ZB-SMS ICal: 1613VG7-5-10-19 wt/vol: 5.022

ConCal: ST190712D1-1
EndCAL: NA

Page 8 of 8

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF ₇	*		156	2.5	0.132
1,2,3,7,8-PeCDD	*	* n	0.87	NotF ₇	*		157	2.5	0.128
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF ₇	*		164	2.5	0.204
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF ₇	*		164	2.5	0.204
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF ₇	*		164	2.5	0.214
1,2,3,4,6,7,8-HpCDD	1.04e+04	0.95 y	0.99	38:08	0.66558		*	2.5	*
OCDD	6.59e+04	0.89 y	0.99	41:29	5.1999		*	2.5	*
2,3,7,8-TCDF	*	* n	0.94	NotF ₇	*		226	2.5	0.131
1,2,3,7,8-PeCDF	*	* n	0.92	NotF ₇	*		159	2.5	0.120
2,3,4,7,8-PeCDF	*	* n	0.96	NotF ₇	*		159	2.5	0.118
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF ₇	*		139	2.5	0.0717
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF ₇	*		139	2.5	0.0738
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF ₇	*		139	2.5	0.0770
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF ₇	*		139	2.5	0.0988
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF ₇	*		131	2.5	0.0910
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF ₇	*		131	2.5	0.100
OCDF	*	* n	0.94	NotF ₇	*		137	2.5	0.196

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	0.339	0.339	*	*	*
Total Penta-Dioxins	*	*		157	0.128
Total Hexa-Dioxins	0.521	0.521	*	*	*
Total Hepta-Dioxins	1.77	1.77	*	*	*
Total Tetra-Furans	*	*		226	0.131
Total Penta-Furans	0.0000	0.0000		159	0.119
Total Hexa-Furans	*	*		139	0.0799
Total Hepta-Furans	*	*		131	0.0951

IS	13C-2,3,7,8-TCDD	8.60e+06	0.81 y	1.11	26:42	326.31
IS	13C-1,2,3,7,8-PeCDD	7.16e+06	0.64 y	0.98	30:59	307.78
IS	13C-1,2,3,4,7,8-HxCDD	6.40e+06	1.29 y	0.68	34:20	335.17
IS	13C-1,2,3,6,7,8-HxCDD	7.52e+06	1.32 y	0.84	34:27	316.57
IS	13C-1,2,3,7,8,9-HxCDD	7.30e+06	1.30 y	0.81	34:45	318.17
IS	13C-1,2,3,4,6,7,8-HpCDD	6.30e+06	1.01 y	0.69	38:07	325.23
IS	13C-OCDD	1.02e+07	0.91 y	0.62	41:29	579.96
IS	13C-2,3,7,8-TCDF	1.17e+07	0.80 y	1.05	25:59	298.24
IS	13C-1,2,3,7,8-PeCDF	1.09e+07	1.57 y	0.95	29:51	306.41
IS	13C-2,3,4,7,8-PeCDF	1.02e+07	1.64 y	0.94	30:44	292.28
IS	13C-1,2,3,4,7,8-HxCDF	8.42e+06	0.52 y	0.86	33:25	347.79
IS	13C-1,2,3,6,7,8-HxCDF	9.54e+06	0.52 y	1.02	33:33	330.72
IS	13C-2,3,4,6,7,8-HxCDF	9.16e+06	0.50 y	0.95	34:10	340.64
IS	13C-1,2,3,7,8,9-HxCDF	8.53e+06	0.51 y	0.87	35:10	348.29
IS	13C-1,2,3,4,6,7,8-HpCDF	7.55e+06	0.42 y	0.81	36:59	330.60
IS	13C-1,2,3,4,7,8,9-HpCDF	5.60e+06	0.43 y	0.63	38:42	313.87
IS	13C-OCDF	1.27e+07	0.88 y	0.78	41:44	575.35

C/Up	37C1-2,3,7,8-TCDD	3.91e+06		1.22	26:43	134.86
RS/RT	13C-1,2,3,4-TCDD	9.50e+06	0.80 y	1.00	26:09	398.21
RS	13C-1,2,3,4-TCDF	1.49e+07	0.79 y	1.00	24:51	398.21
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.13e+07	0.52 y	1.00	33:51	398.21

Rec Qual

81.9
77.3
84.2
79.5
79.9
81.7
72.8
74.9
76.9
73.4
87.3
83.0
85.5
87.5
83.0
78.8
72.2

84.7

Integrations
by
Analyst: DB

Date: 7/25/19

Reviewed

by
Analyst: CT

Date: 08/02/19

Totals class: TCDD EMPC

Entry #: 19

Run: 14

File: 190712D1

S: 9 I: 1 F: 1

Acquired: 12-JUL-19 19:56:54

Processed: 15-JUL-19 11:00:44

Total Concentration: 0.33892

Unnamed Concentration: 0.339

RT	m1 Resp	m2 Resp RA	Resp Concentration	Name
24:57	3.097e+03	3.498e+03 0.89 y	6.595e+03	0.33892

Totals class: HxCDD EMPC

Entry #: 23

Run: 14

File: 190712D1

S: 9 I: 1 F: 3

Acquired: 12-JUL-19 19:56:54

Processed: 15-JUL-19 11:00:44

Total Concentration: 0.52146

Unnamed Concentration: 0.521

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:45	5.032e+03	4.006e+03	1.26 y	9.038e+03	0.52146

Totals class: HpCDD EMPC

Entry #: 25

Run: 14

File: 190712D1

S: 9 I: 1 F: 4

Acquired: 12-JUL-19 19:56:54

Processed: 15-JUL-19 11:00:44

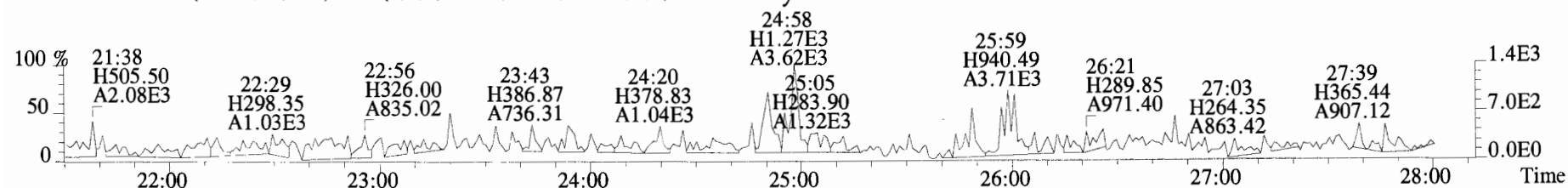
Total Concentration: 1.7705

Unnamed Concentration: 1.105

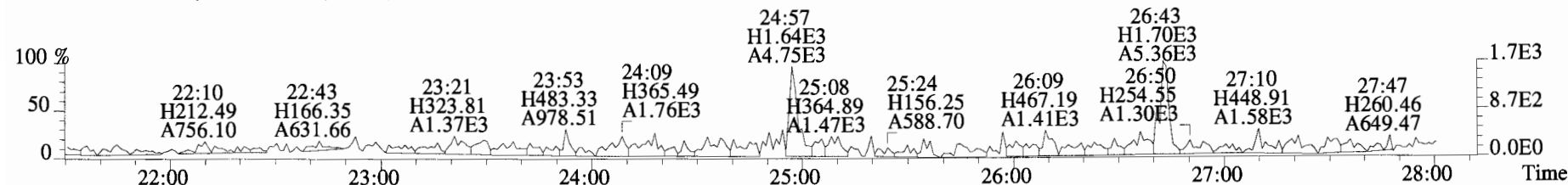
RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
37:19	9.203e+03	8.083e+03	1.14 y	1.729e+04	1.1049
38:08	5.059e+03	5.353e+03	0.95 y	1.041e+04	0.66558

1,2,3,4,6,7,8-HpCDD

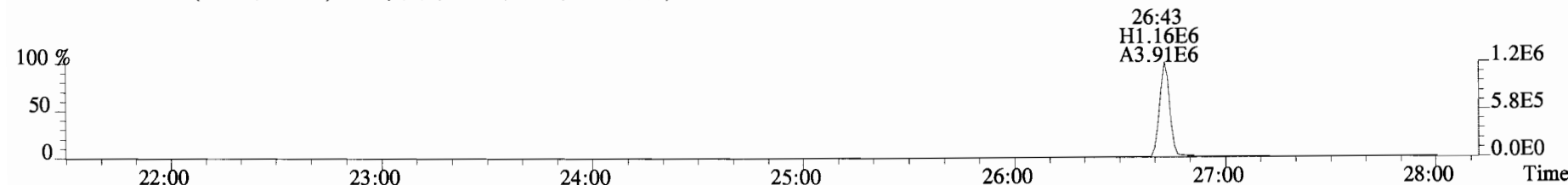
File:190712D1 #1-513 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PD12019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
 319.8965 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



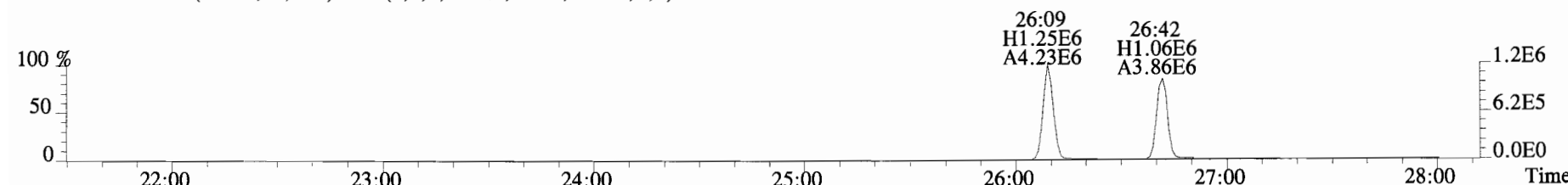
321.8936 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



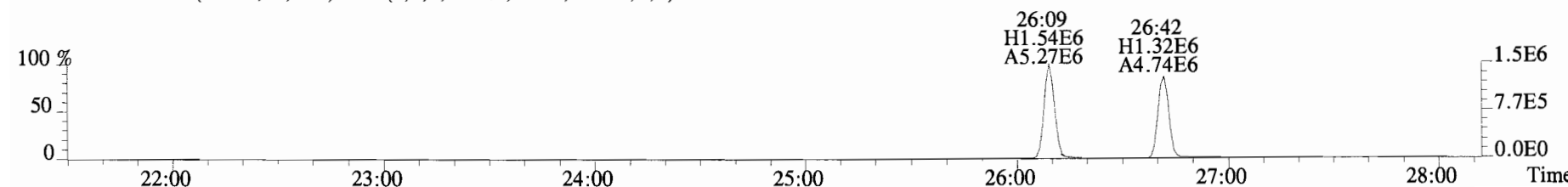
327.8847 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



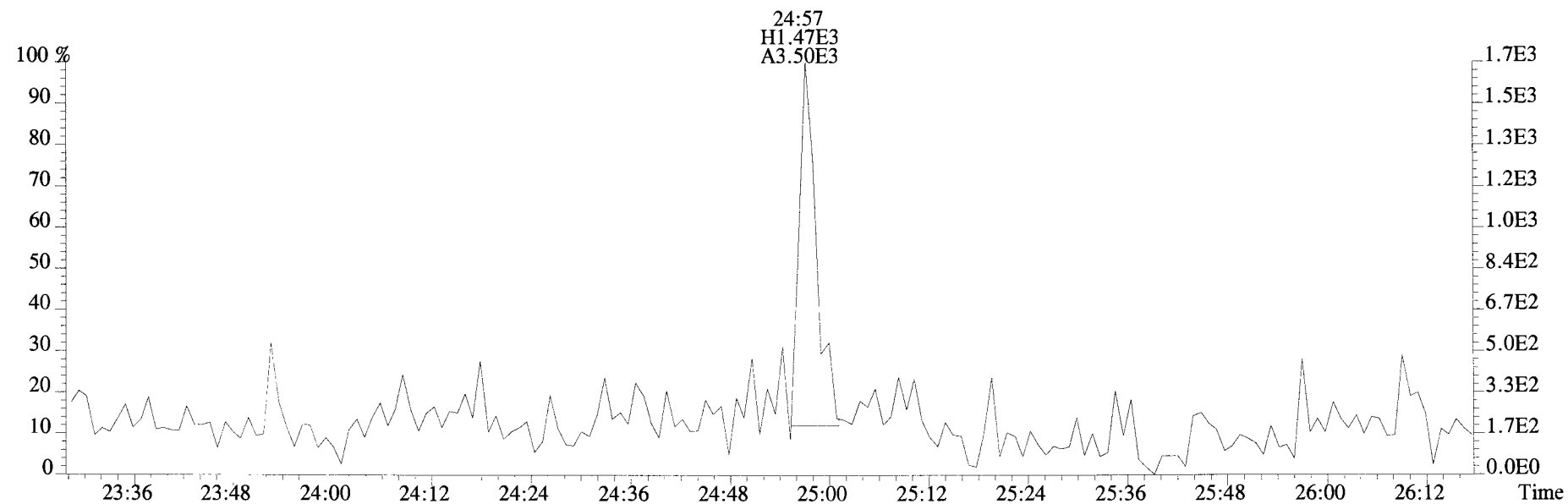
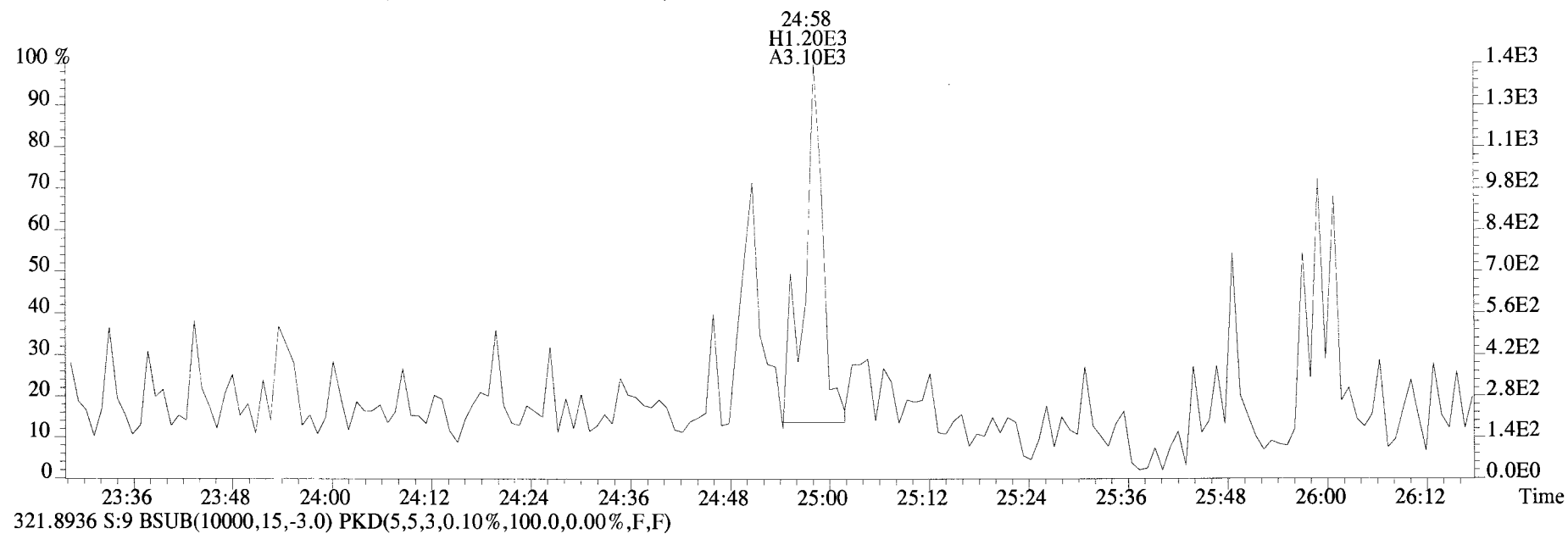
331.9368 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



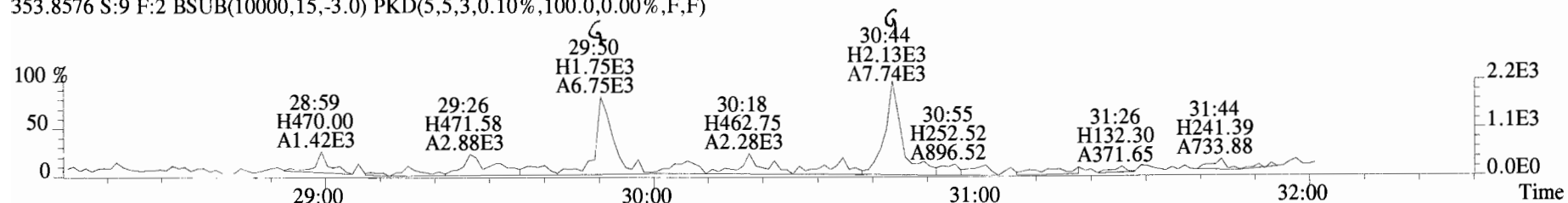
333.9339 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



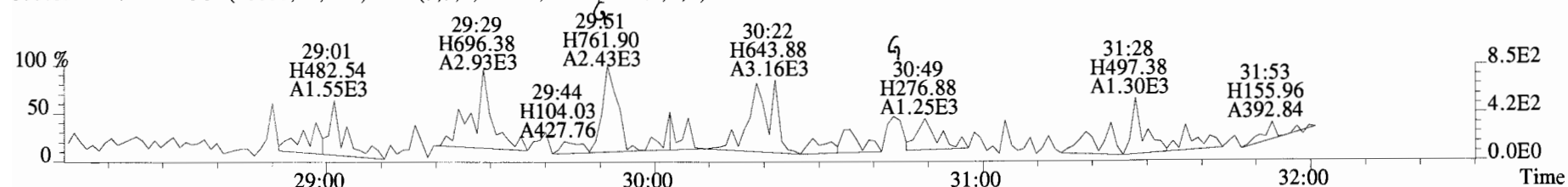
File:190712D1 #1-513 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
319.8965 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



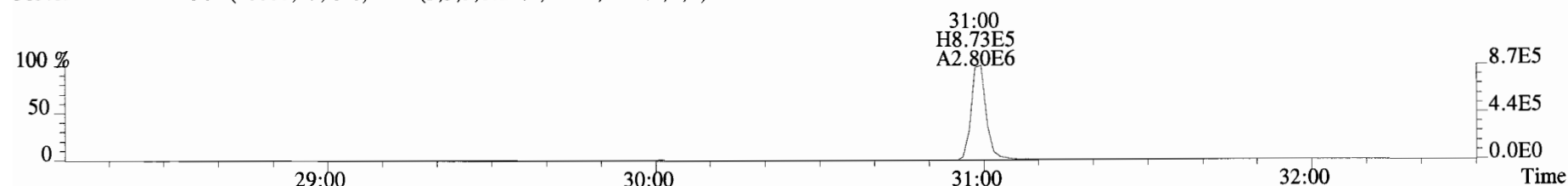
File:190712D1 #1-211 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical_Laboratory_VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
353.8576 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



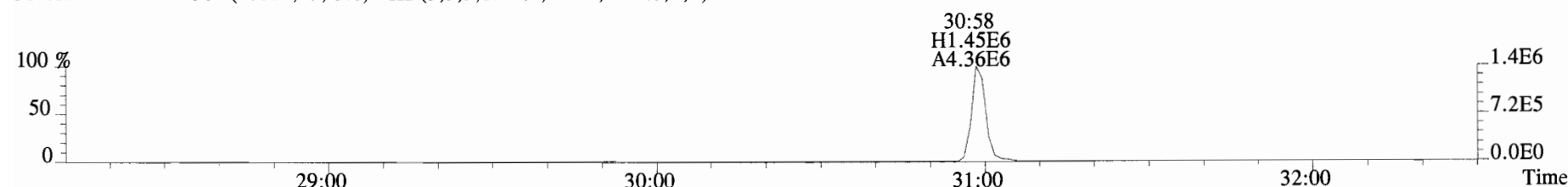
355.8546 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



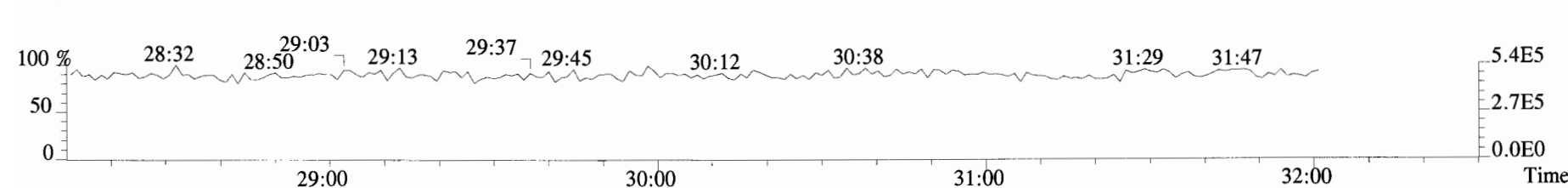
365.8978 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



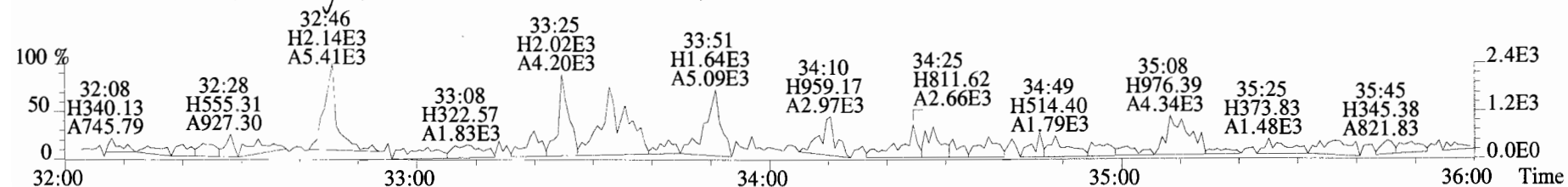
367.8949 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



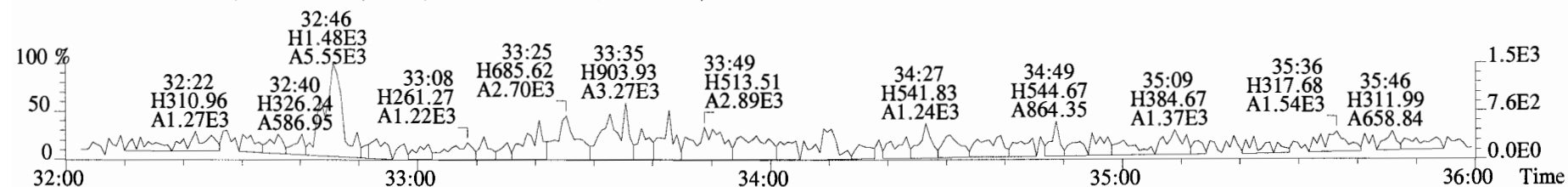
366.9792 S:9 F:2



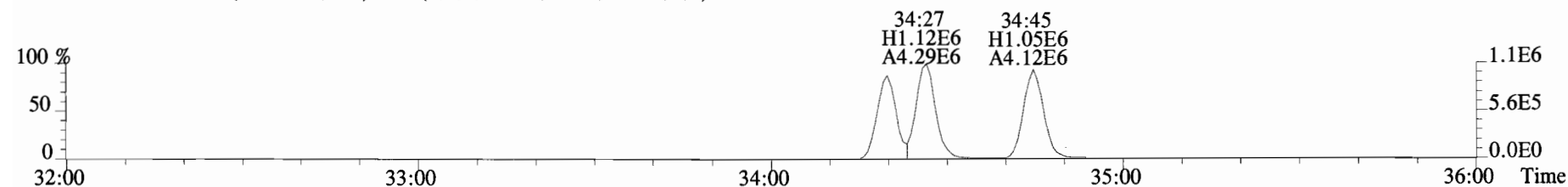
File:190712D1 #1-354 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



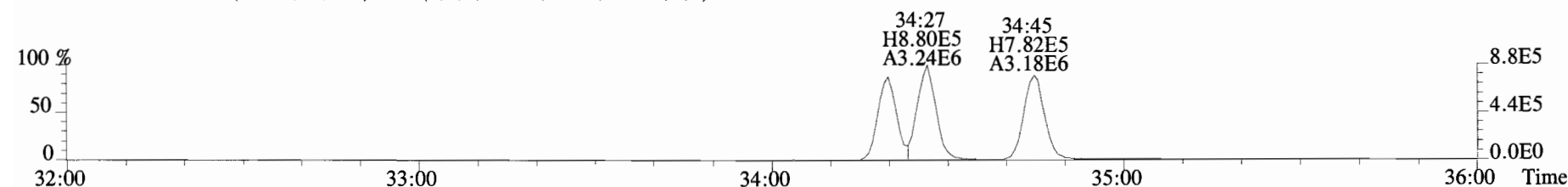
391.8127 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



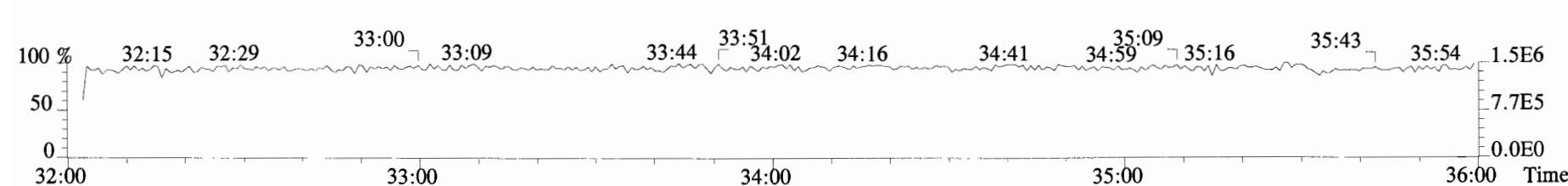
401.8559 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



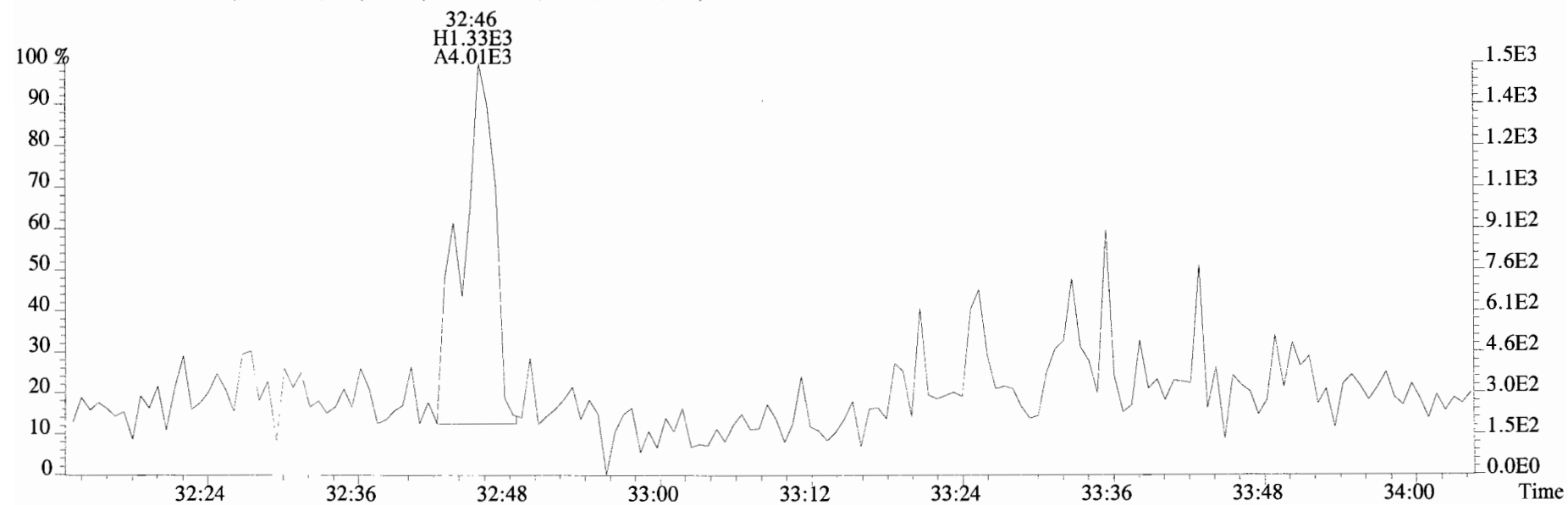
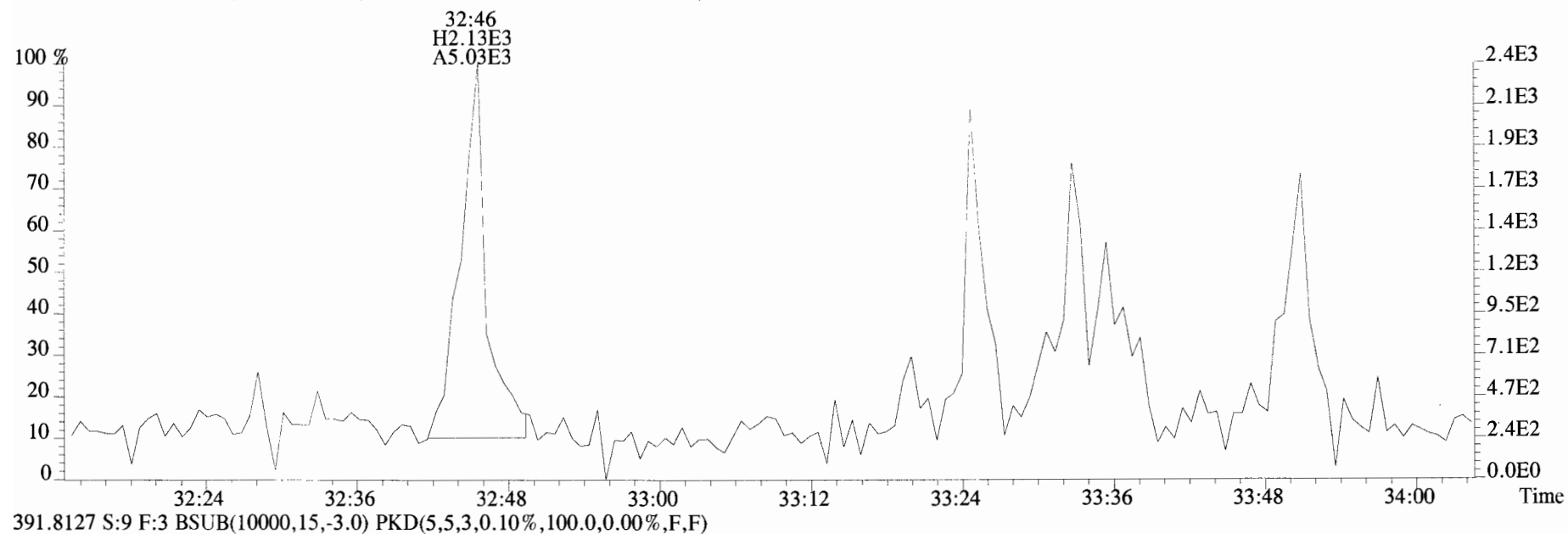
403.8530 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



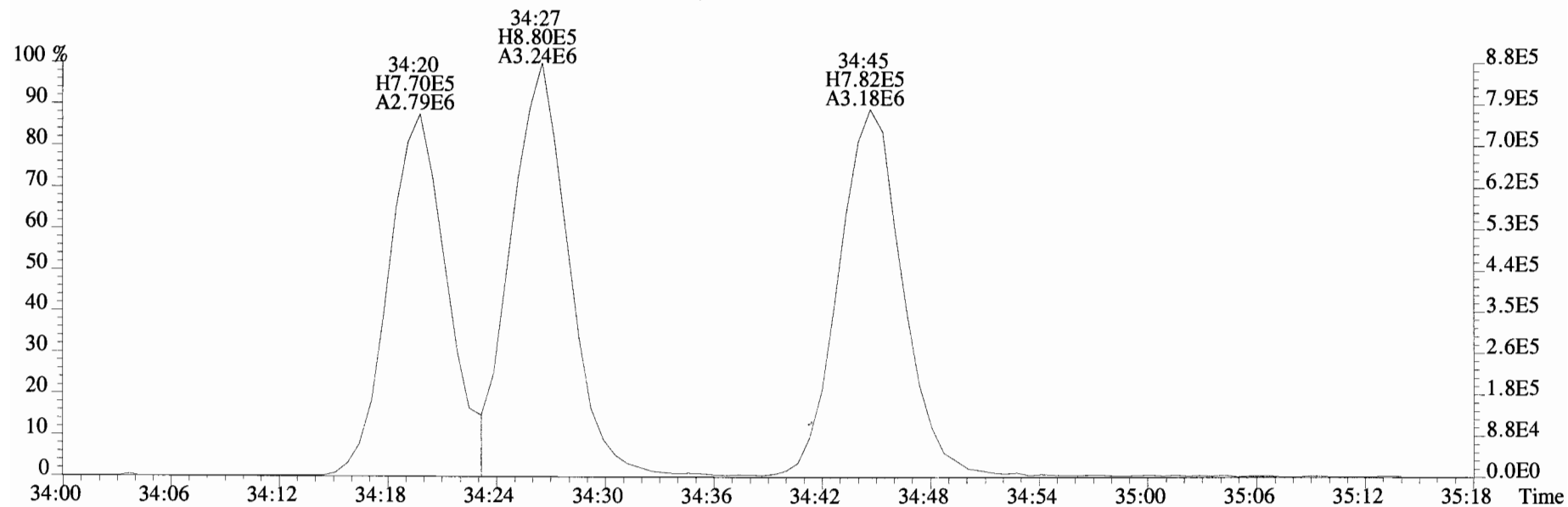
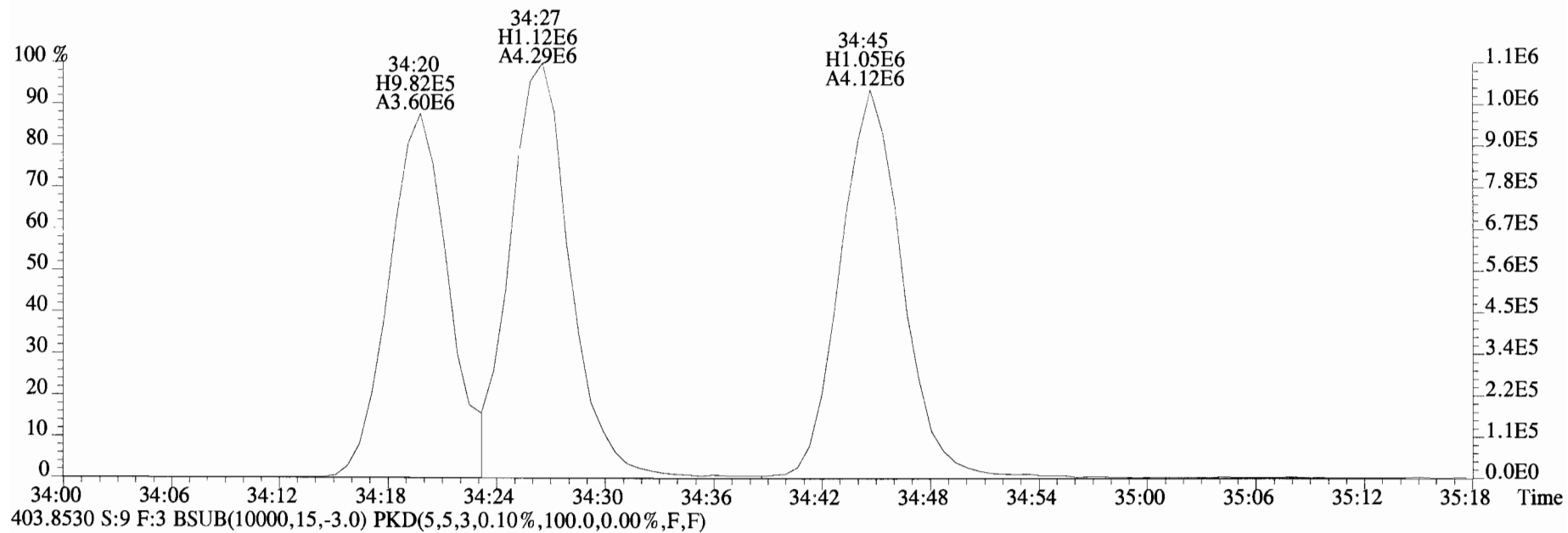
392.9760 S:9 F:3



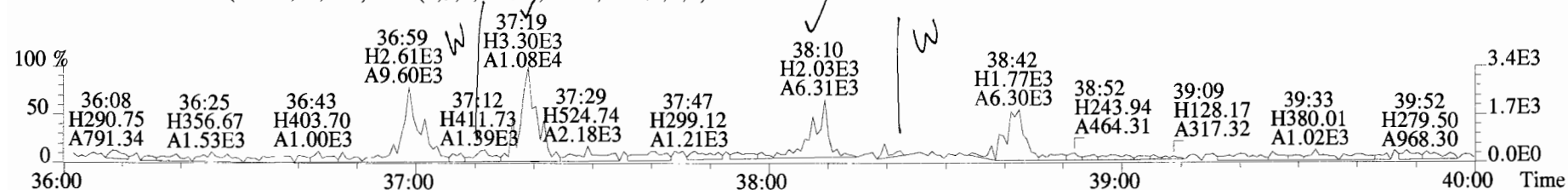
File:190712D1 #1-354 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



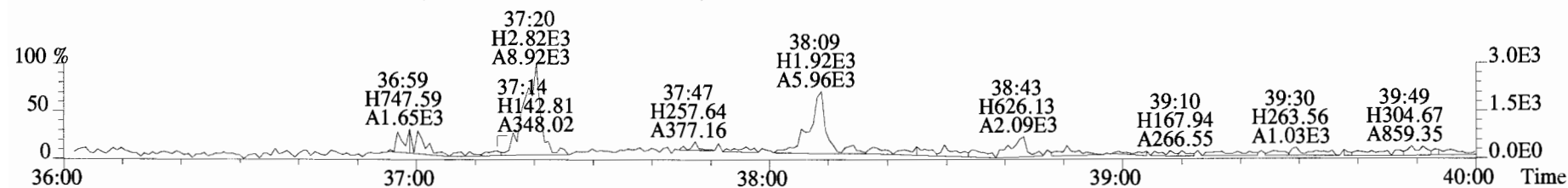
File:190712D1 #1-354 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
401.8559 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



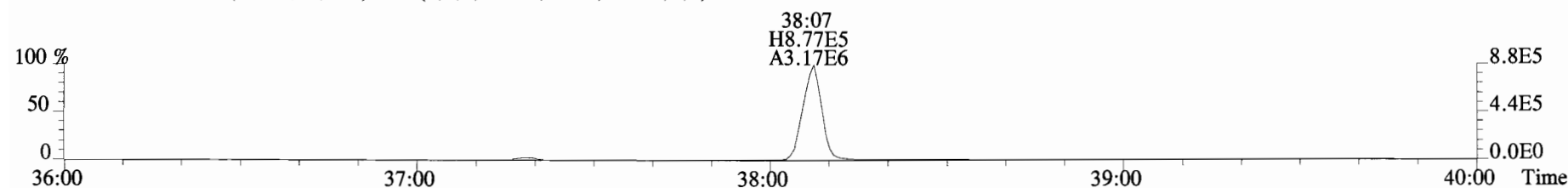
File:190712D1 #1-356 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text: Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



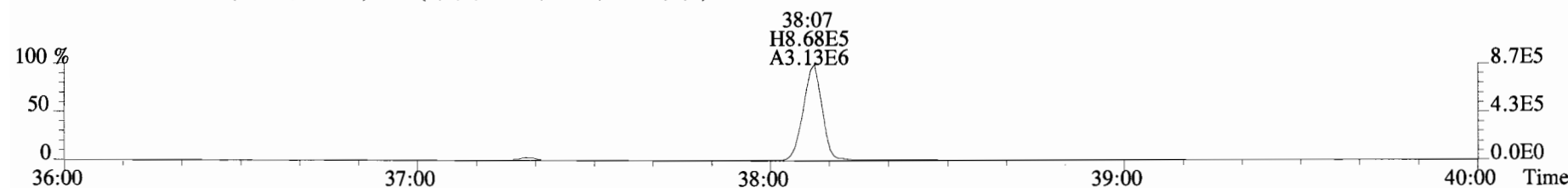
425.7737 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



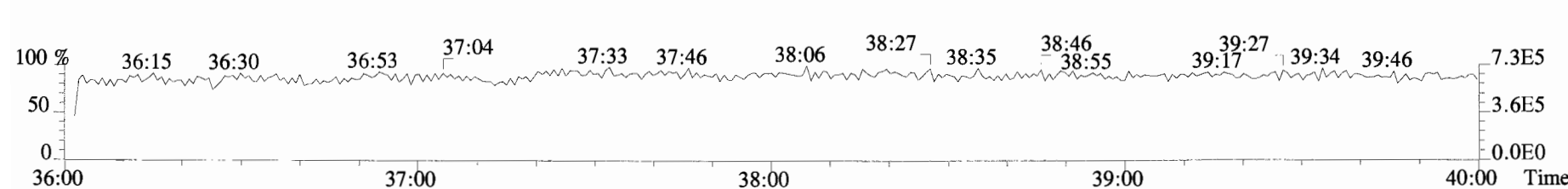
435.8169 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



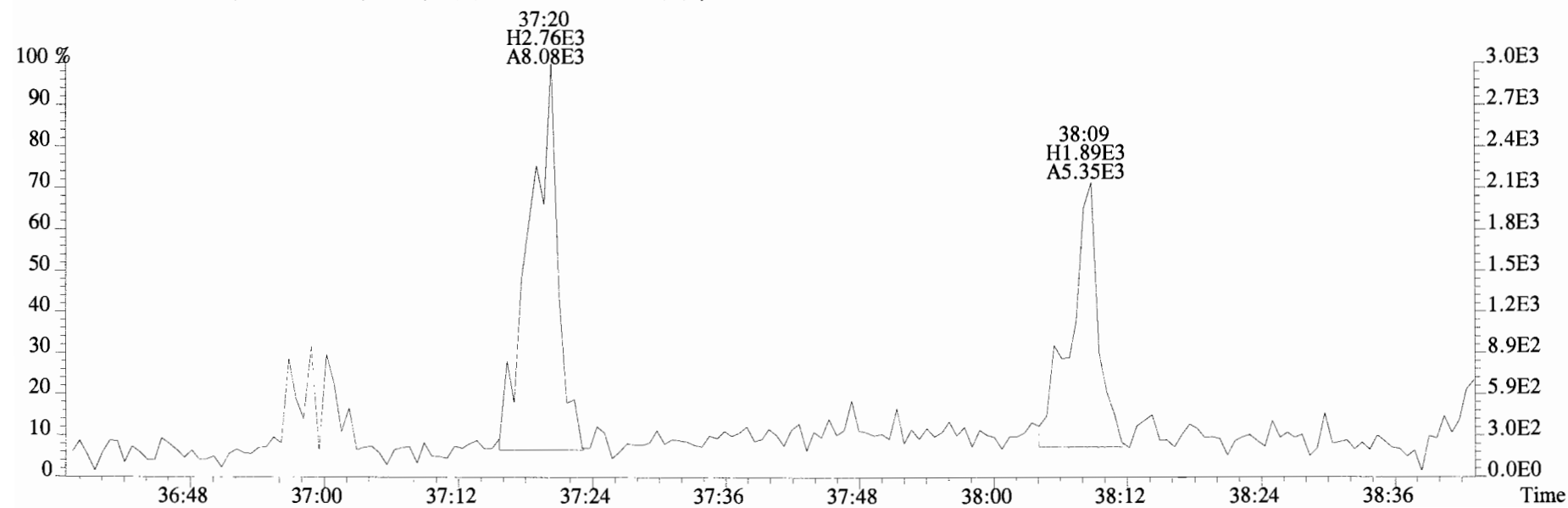
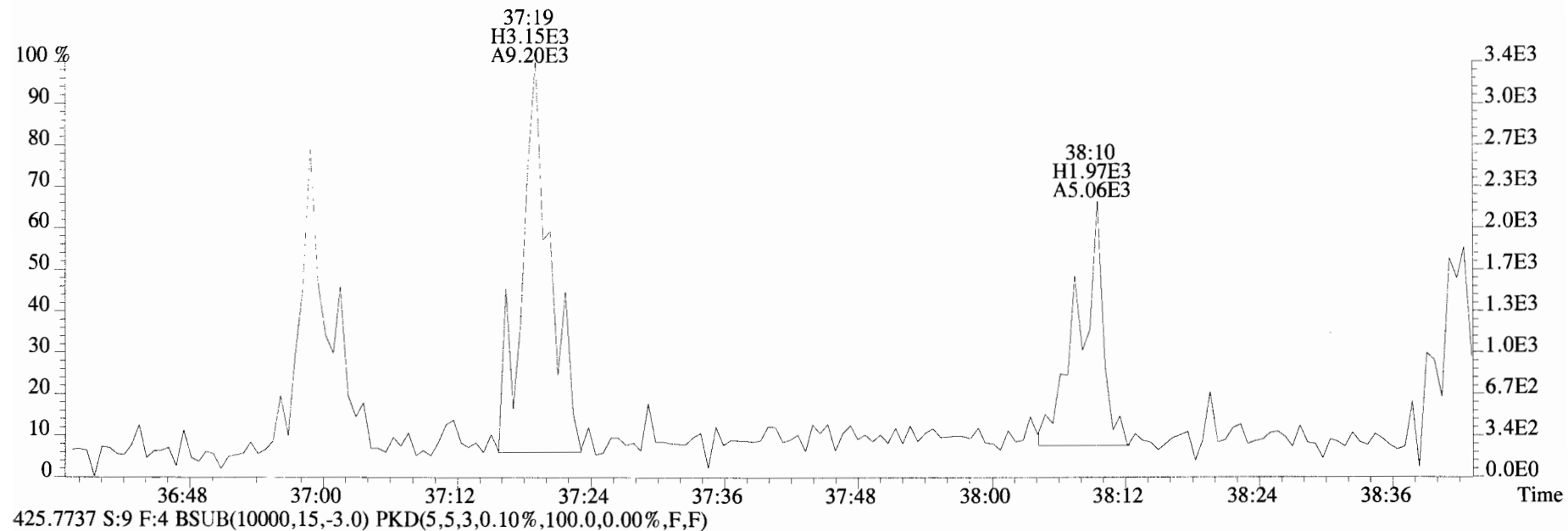
437.8140 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



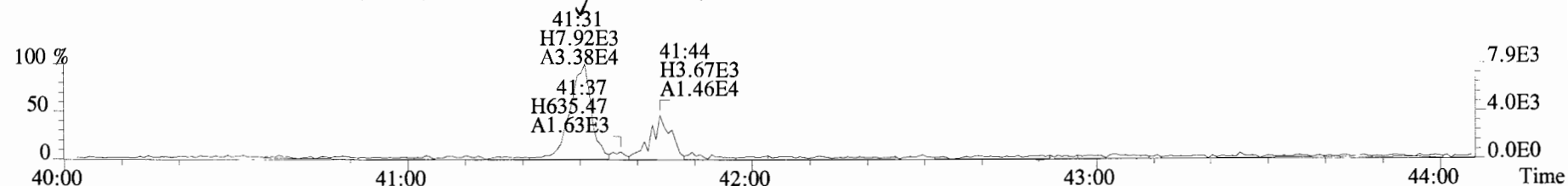
454.9728 S:9 F:4



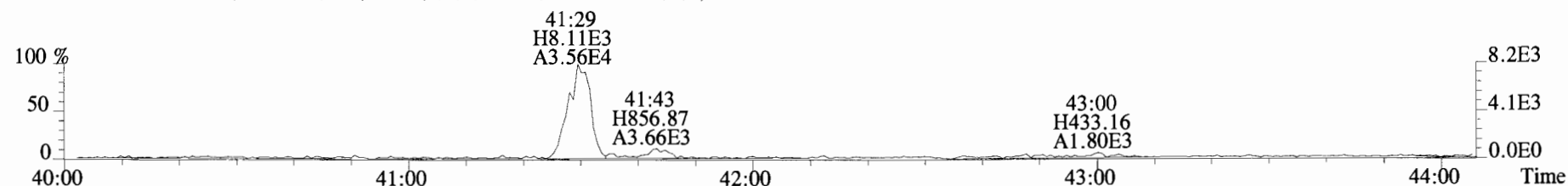
File:190712D1 #1-356 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



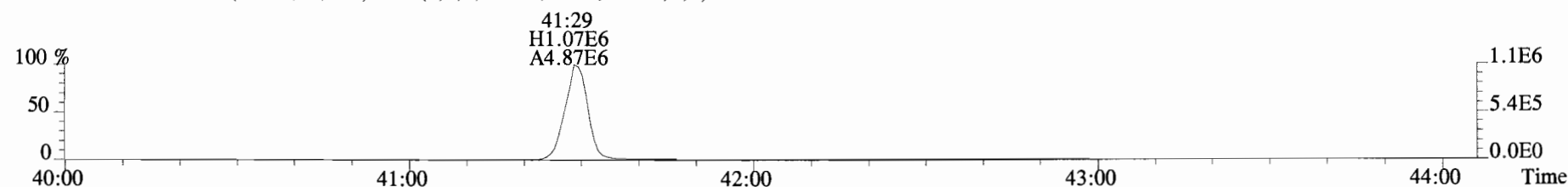
File:190712D1 #1-431 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
 457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



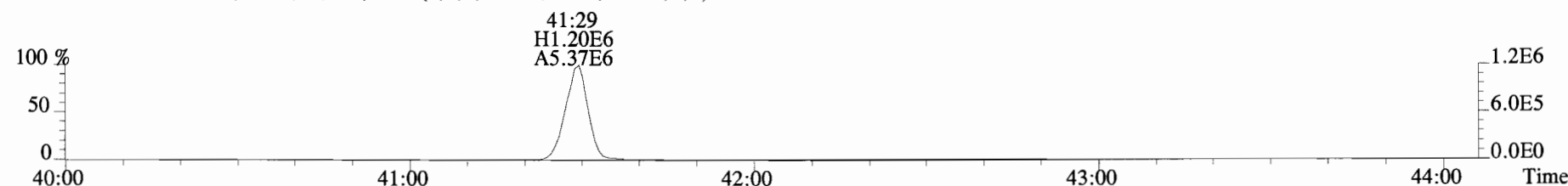
459.7348 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



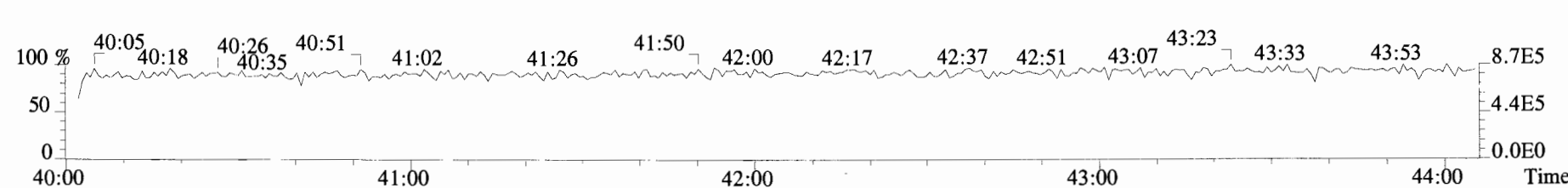
469.7780 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



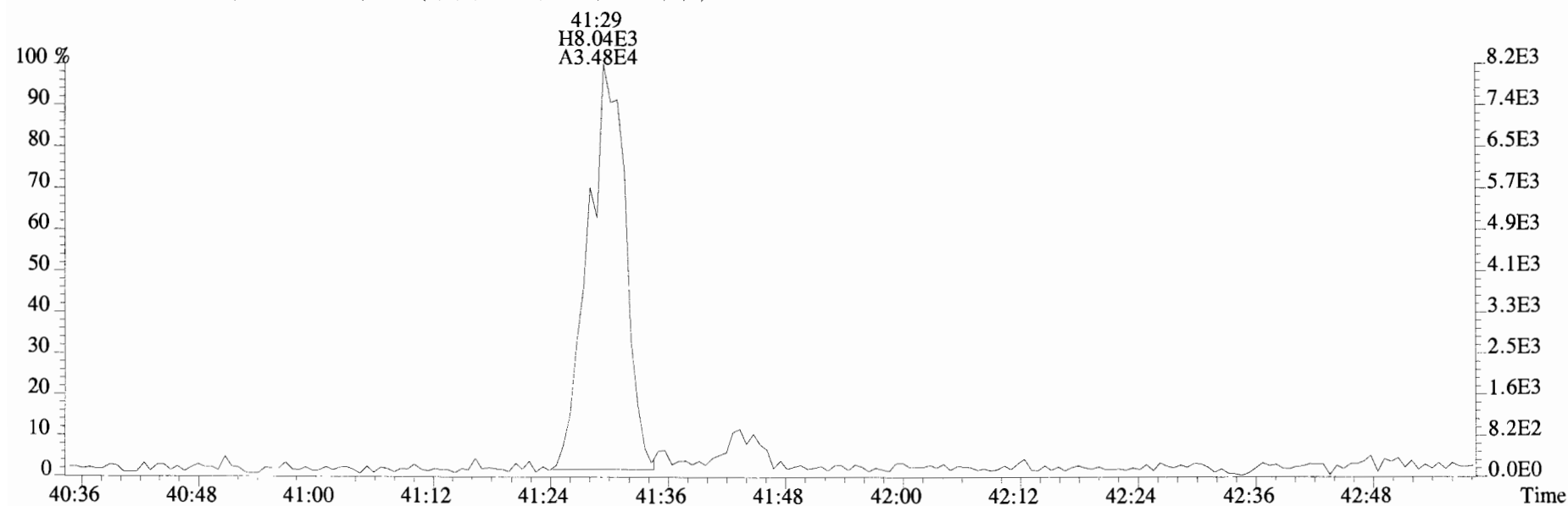
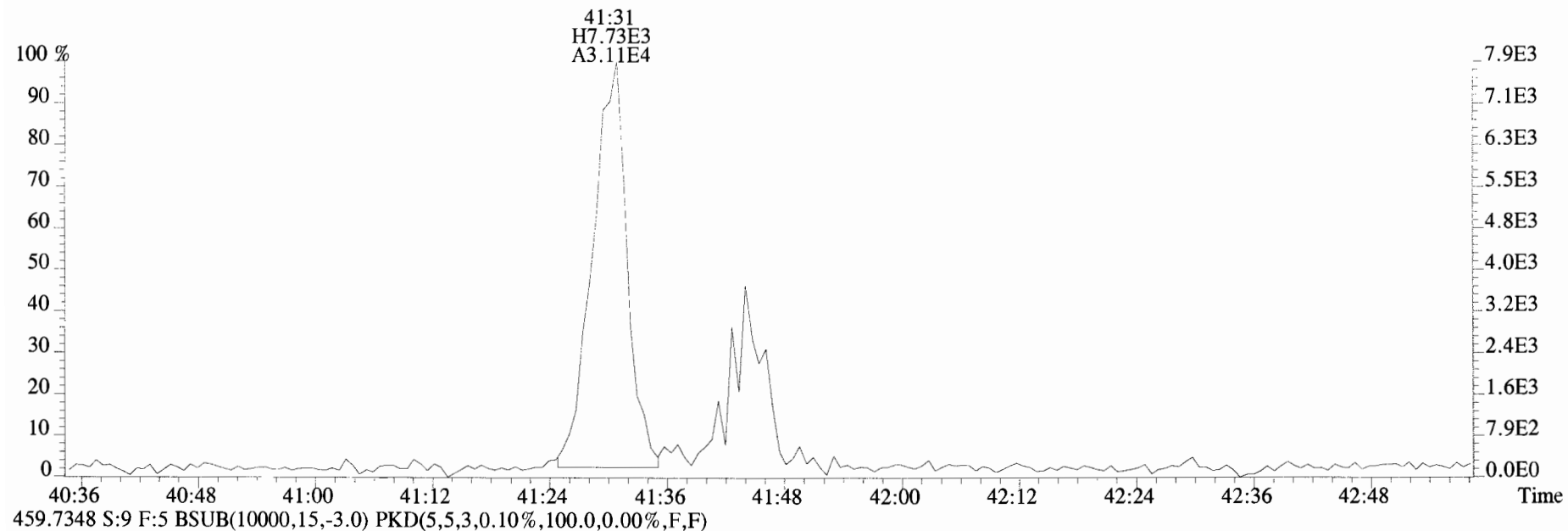
471.7750 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



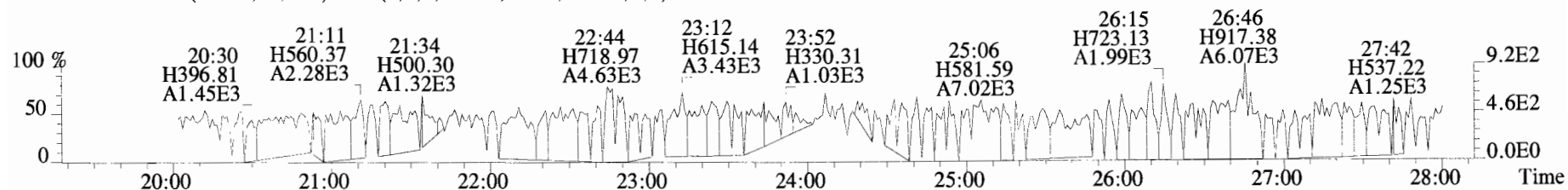
454.9728 S:9 F:5



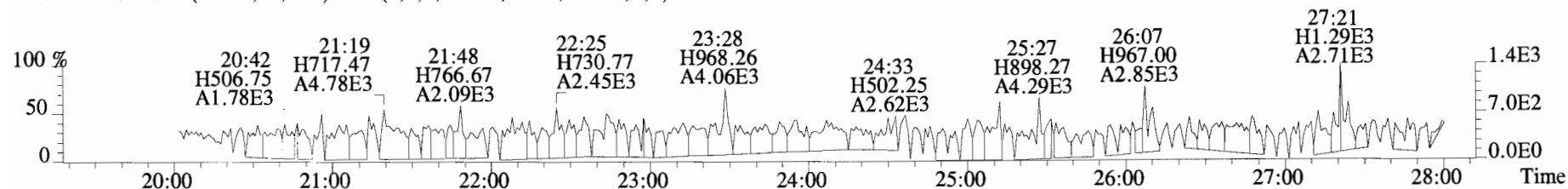
File:190712D1 #1-431 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



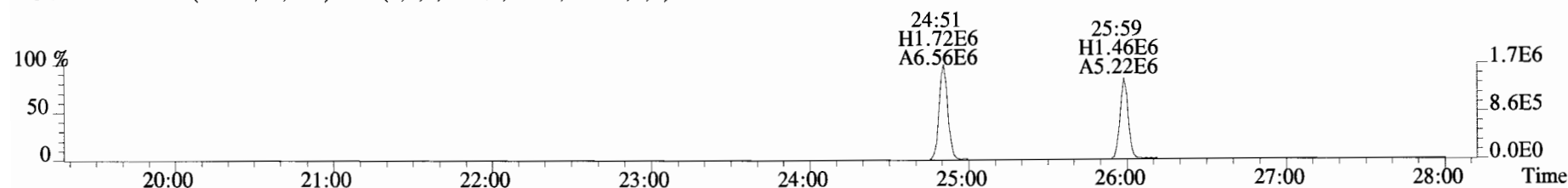
File:190712D1 #1-513 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text: Vista Analytical Laboratory_VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
 303.9016 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



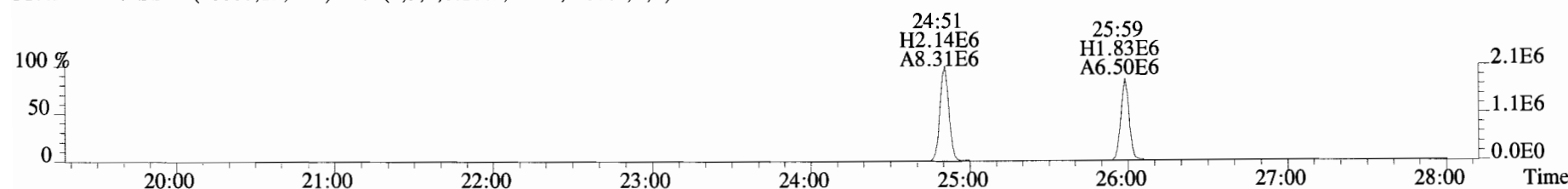
305.8987 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



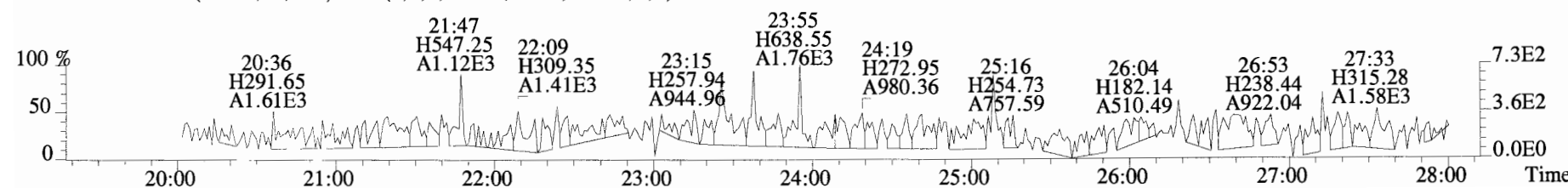
315.9419 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



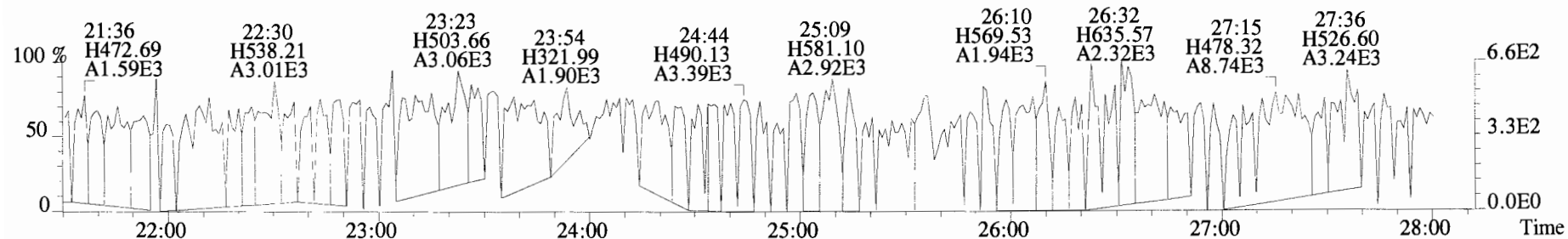
317.9389 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



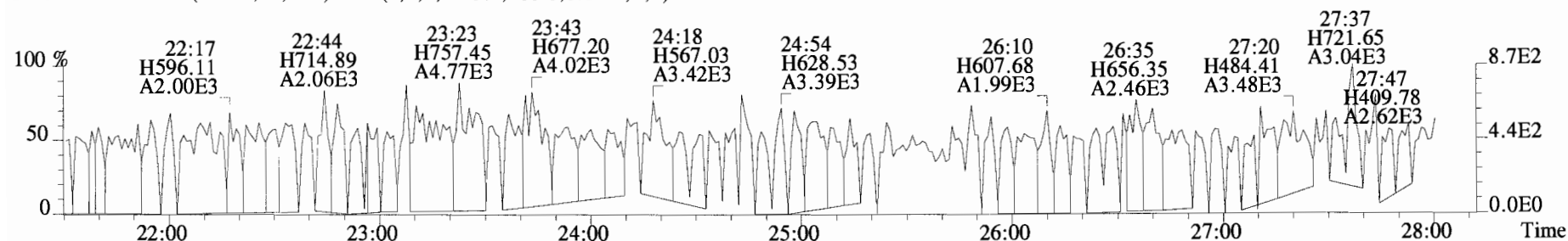
375.8364 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



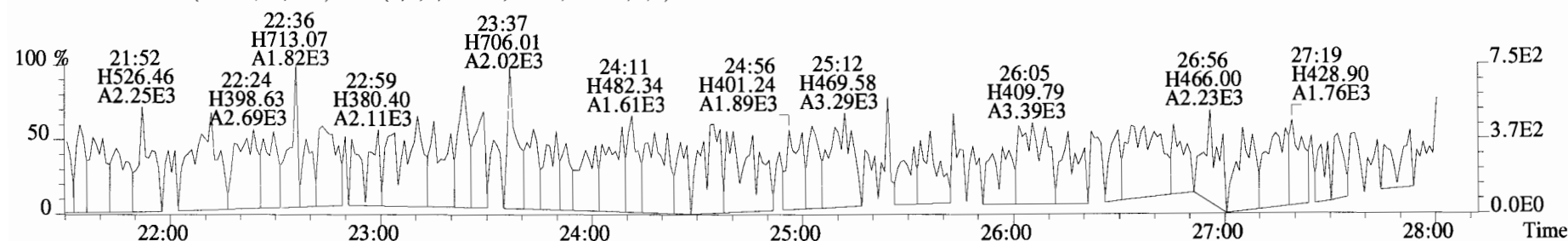
File:190712D1 #1-513 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
339.8597 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



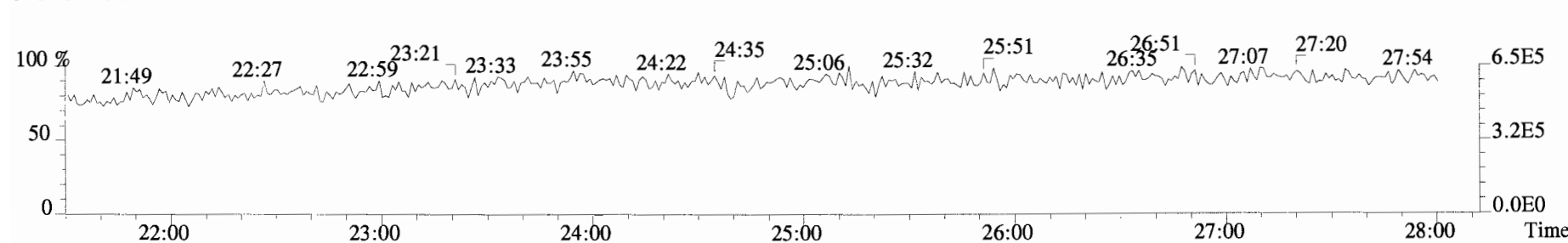
341.8568 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



409.7974 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



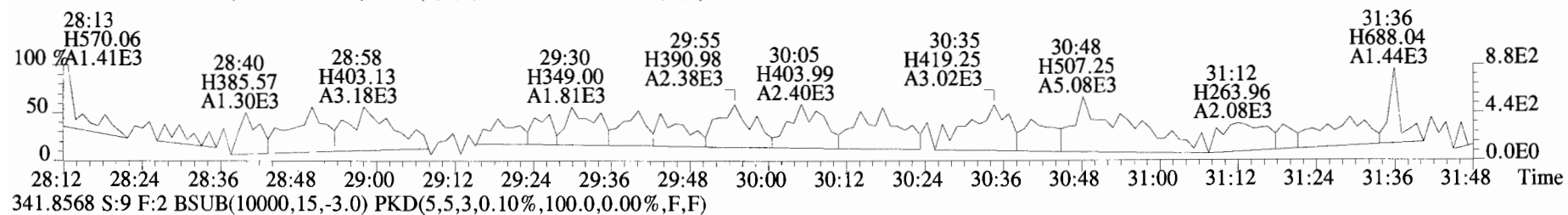
316.9824 S:9



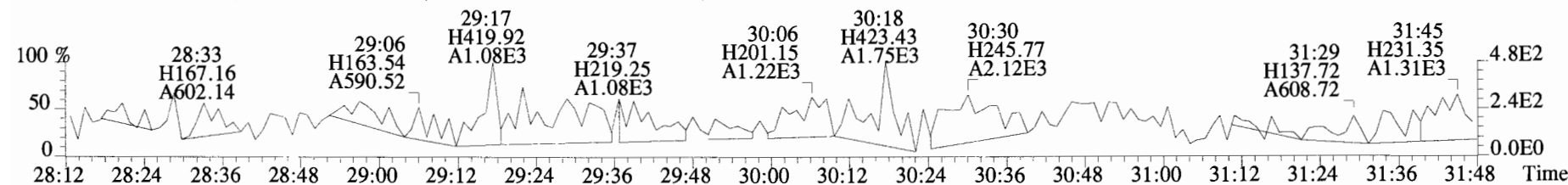
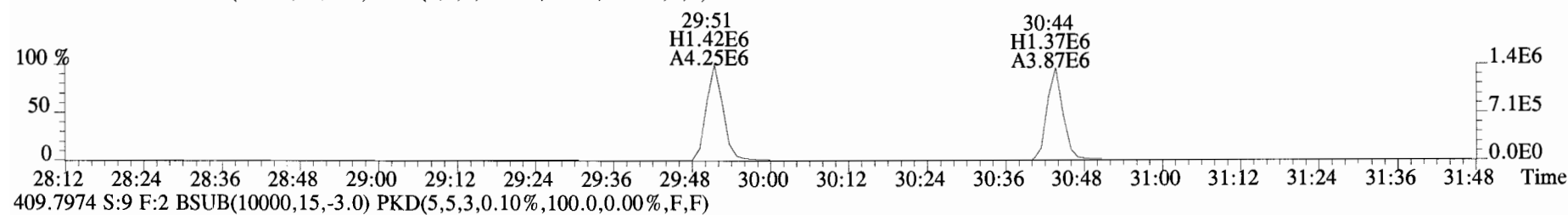
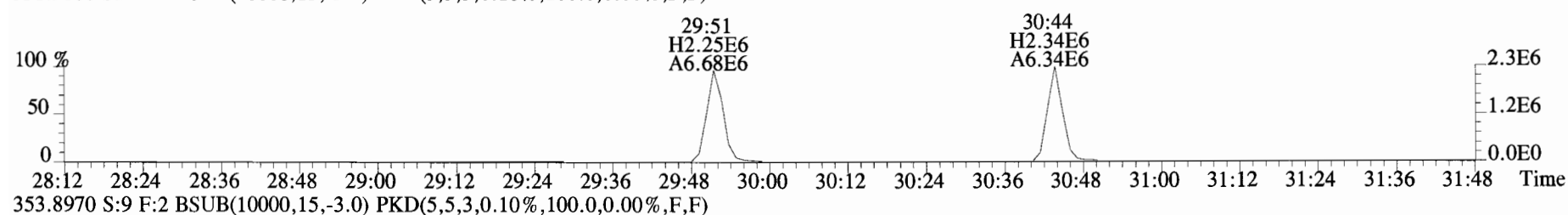
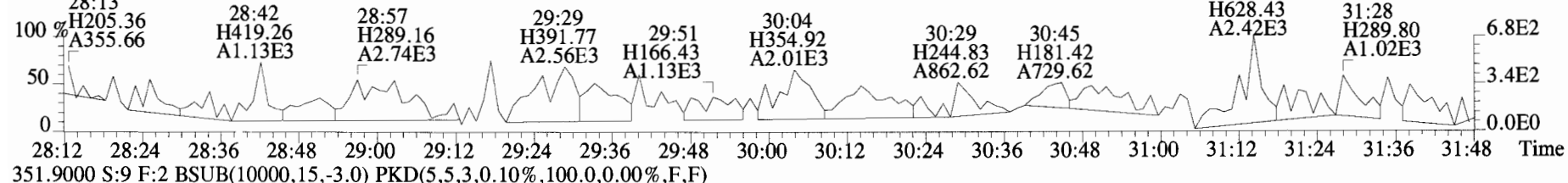
File:190712D1 #1-211 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE

Sample#9 File Text:Vista Analytical_Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5

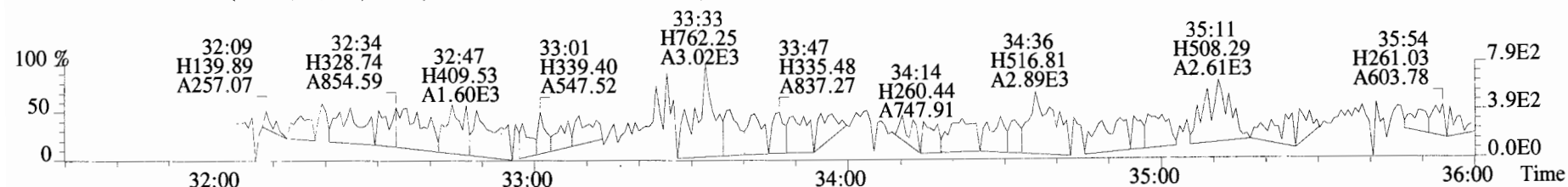
339.8597 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



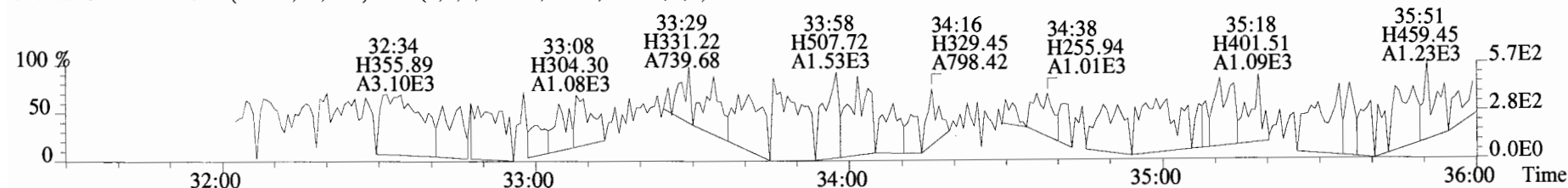
341.8568 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



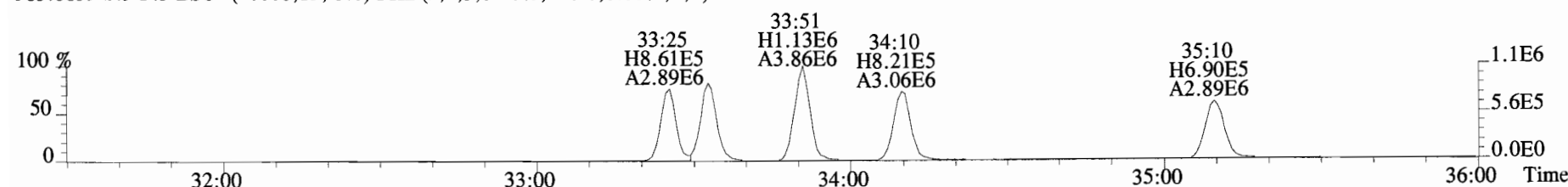
File:190712D1 #1-354 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text: Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
 373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



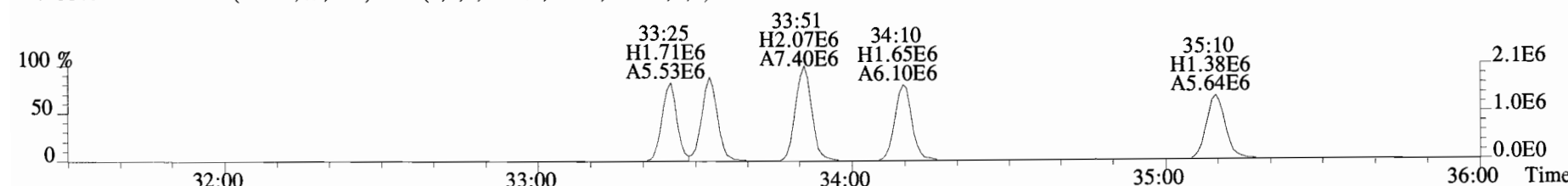
375.8178 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



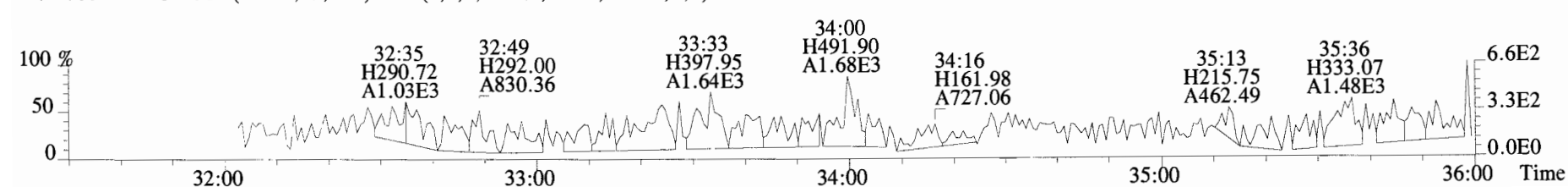
383.8639 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



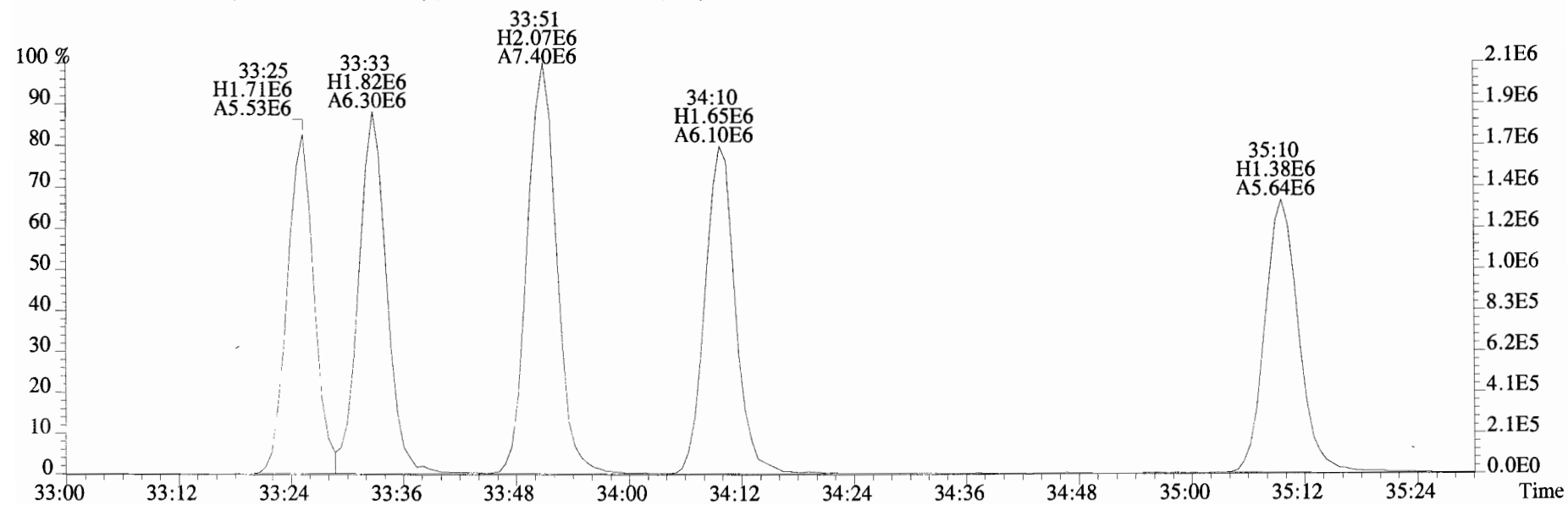
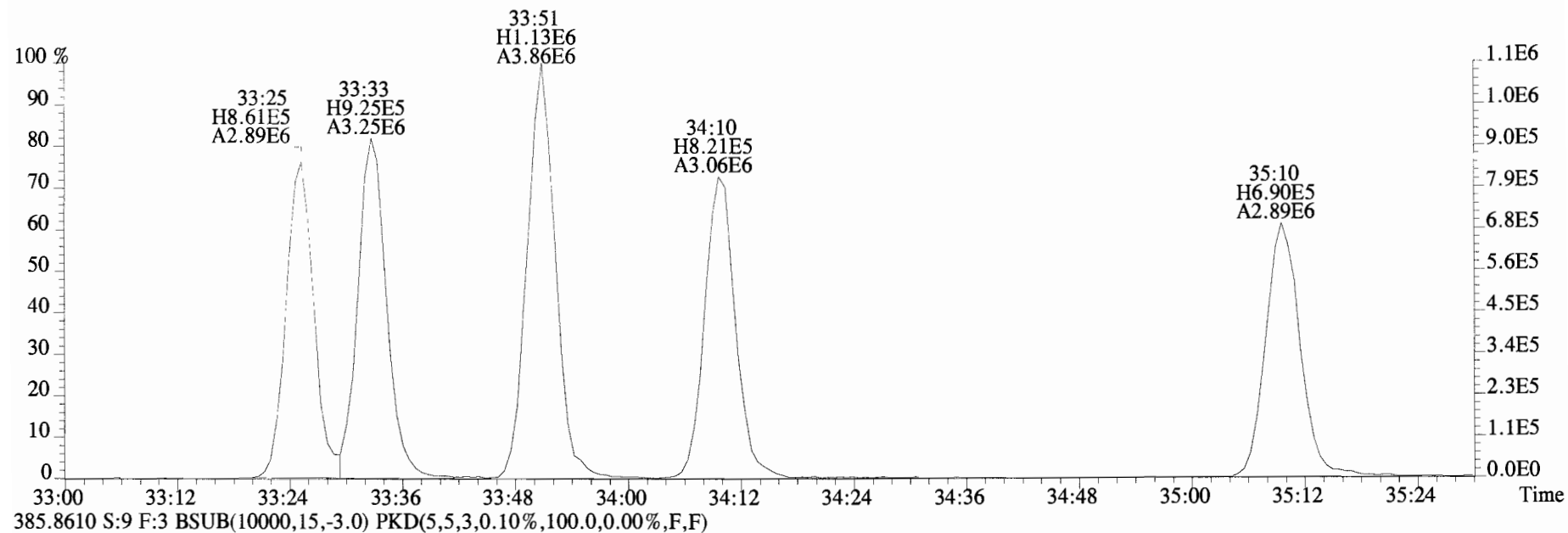
385.8610 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



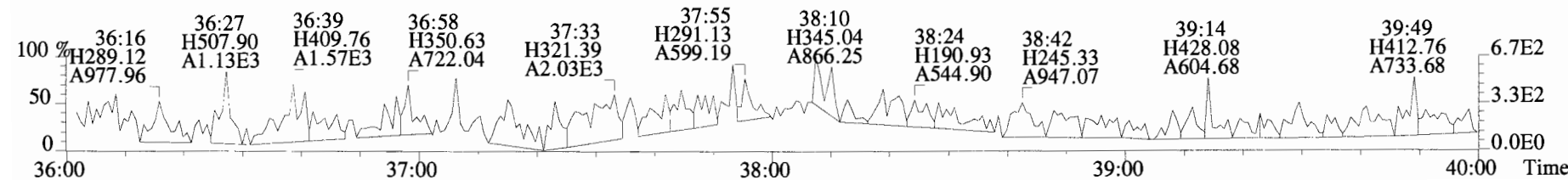
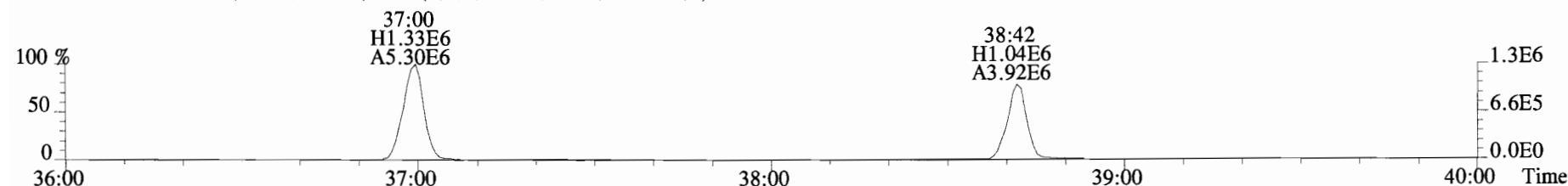
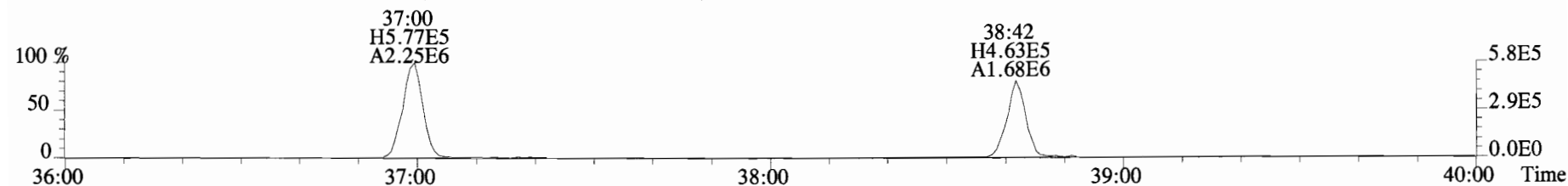
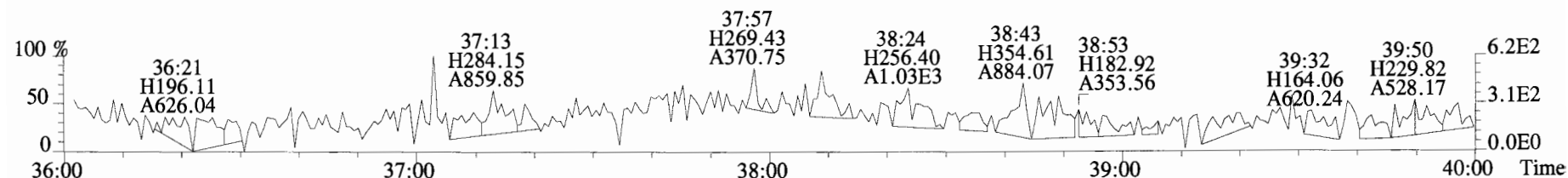
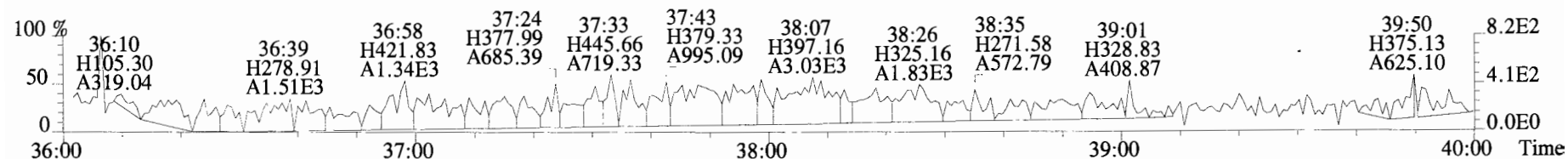
445.7555 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190712D1 #1-354 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
 383.8639 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



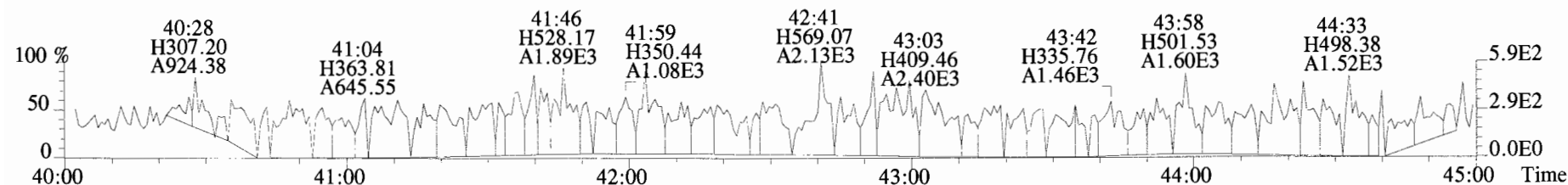
File:190712D1 #1-356 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text: Vista Analytical Laboratory VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5
 407.7818 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



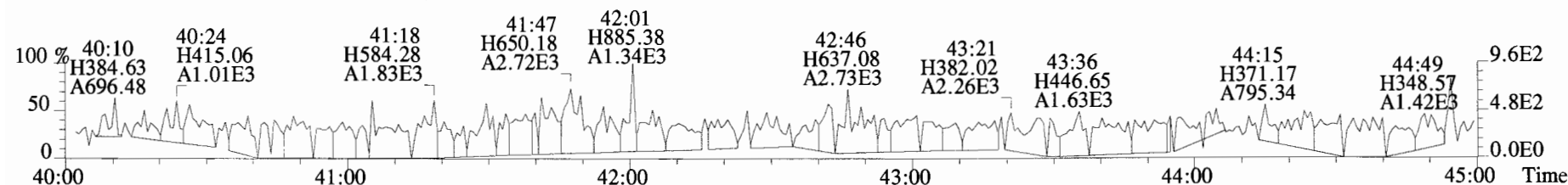
File:190712D1 #1-431 Acq:12-JUL-2019 19:56:54 GC EI+ Voltage SIR Autospec-UltimaE

Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-09RE1 T4-PDI2019-SC13-190521-07-09 7.39 Exp:OCDD_DB5

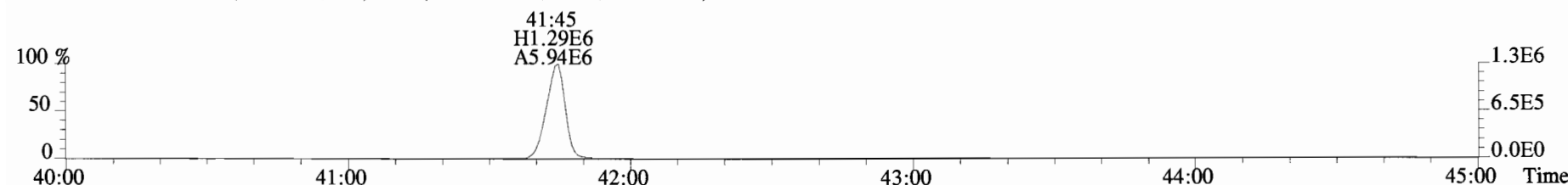
441.7428 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



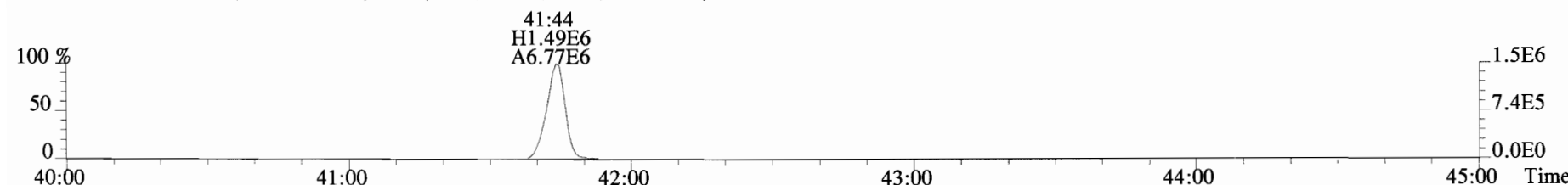
443.7398 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



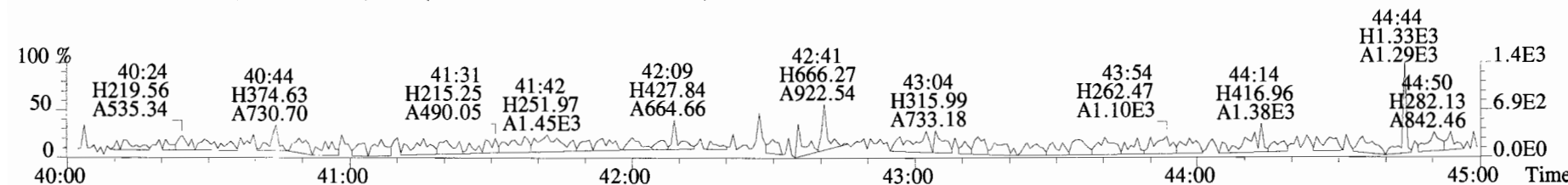
453.7831 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC13 190521η Filename: 190627D2 S:3 Acq:28-JUN-19 06:42:41
Lab ID: 1901246-10 GC Column ID: ZB-5MS ICal: 1613VG7 5-10-19 wt/vol: 5.013

ConCal: ST190627D2-1
EndCAL: NA

Page 2 of 2

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotFη	*		174	2.5	0.145
1,2,3,7,8-PeCDD	*	* n	0.87	NotFη	*		310	2.5	0.276
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotFη	*		221	2.5	0.236
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotFη	*		221	2.5	0.253
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotFη	*		221	2.5	0.256
1,2,3,4,6,7,8-HpCDD	1.47e+04	1.19 y	0.99	37:41	0.65555		*	2.5	*
OCDD	1.19e+05	0.88 y	0.99	40:57	6.5749		*	2.5	*
2,3,7,8-TCDF	*	* n	0.94	NotFη	*		275	2.5	0.177
1,2,3,7,8-PeCDF	*	* n	0.92	NotFη	*		269	2.5	0.246
2,3,4,7,8-PeCDF	*	* n	0.96	NotFη	*		269	2.5	0.234
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotFη	*		161	2.5	0.0690
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotFη	*		161	2.5	0.0740
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotFη	*		161	2.5	0.0769
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotFη	*		161	2.5	0.120
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotFη	*		149	2.5	0.102
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotFη	*		149	2.5	0.100
OCDF	*	* n	0.94	NotFη	*		172	2.5	0.173

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	0.627	0.627	*	*	*
Total Penta-Dioxins	*	*	310	0.276	*
Total Hexa-Dioxins	0.593	0.593	*	*	*
Total Hepta-Dioxins	1.82	1.82	*	*	*
Total Tetra-Furans	*	*	275	0.177	*
Total Penta-Furans	0.0000	0.0000	269	0.240	*
Total Hexa-Furans	*	*	161	0.0843	*
Total Hepta-Furans	*	*	149	0.101	*

							Rec	Qual
IS	13C-2,3,7,8-TCDD	9.08e+06	0.76 y	1.11	26:03	284.04	71.2	
IS	13C-1,2,3,7,8-PeCDD	7.54e+06	0.65 y	0.98	30:32	267.18	67.0	
IS	13C-1,2,3,4,7,8-HxCDD	7.09e+06	1.24 y	0.68	33:49	327.80	82.2	
IS	13C-1,2,3,6,7,8-HxCDD	8.79e+06	1.29 y	0.84	33:55	326.50	81.8	
IS	13C-1,2,3,7,8,9-HxCDD	8.93e+06	1.27 y	0.81	34:14	343.71	86.2	
IS	13C-1,2,3,4,6,7,8-HpCDD	9.05e+06	1.07 y	0.69	37:41	412.31	103	
IS	13C-OCDD	1.46e+07	0.91 y	0.62	40:57	730.53	91.6	
IS	13C-2,3,7,8-TCDF	1.26e+07	0.80 y	1.05	25:18	259.32	65.0	
IS	13C-1,2,3,7,8-PeCDF	1.12e+07	1.56 y	0.95	29:22	255.37	64.0	
IS	13C-2,3,4,7,8-PeCDF	1.08e+07	1.62 y	0.94	30:16	250.98	62.9	
IS	13C-1,2,3,4,7,8-HxCDF	9.44e+06	0.52 y	0.86	32:56	344.23	86.3	
IS	13C-1,2,3,6,7,8-HxCDF	1.15e+07	0.51 y	1.02	33:03	351.13	88.0	
IS	13C-2,3,4,6,7,8-HxCDF	1.08e+07	0.50 y	0.95	33:40	354.68	88.9	
IS	13C-1,2,3,7,8,9-HxCDF	1.02e+07	0.51 y	0.87	34:38	368.55	92.4	
IS	13C-1,2,3,4,6,7,8-HpCDF	9.79e+06	0.45 y	0.81	36:27	378.66	94.9	
IS	13C-1,2,3,4,7,8,9-HpCDF	8.22e+06	0.46 y	0.63	38:15	406.61	102	
IS	13C-OCDF	1.83e+07	0.90 y	0.78	41:10	732.38	91.8	

C/Up	37C1-2,3,7,8-TCDD	3.34e+06		1.22	26:04	95.058
RS/RT	13C-1,2,3,4-TCDD	1.15e+07	0.80 y	1.00	25:28	398.94
RS	13C-1,2,3,4-TCDF	1.84e+07	0.83 y	1.00	24:04	398.94
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.28e+07	0.49 y	1.00	33:21	398.94

Integrations
by
Analyst: DB
Date: 8/5/19
Reviewed
by
Analyst: CT
Date: 08/08/19

Totals class: TCDD EMPC

Entry #: 19

Run: 8

File: 190627D2

S: 3 I: 1 F: 1

Acquired: 28-JUN-19 06:42:41

Processed: 28-JUN-19 14:13:56

Total Concentration: 0.62669

Unnamed Concentration: 0.627

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
24:11	5.783e+03	7.069e+03	0.82 y	1.285e+04	0.62669

Totals class: HxCDD EMPC

Entry #: 23

Run: 8

File: 190627D2

S: 3 I: 1 F: 3

Acquired: 28-JUN-19 06:42:41

Processed: 28-JUN-19 14:13:56

Total Concentration: 0.59344

Unnamed Concentration: 0.593

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:18	6.333e+03	5.671e+03	1.12 y	1.200e+04	0.59344

Totals class: HpCDD EMPC

Entry #: 25

Run: 8

File: 190627D2

S: 3 I: 1 F: 4

Acquired: 28-JUN-19 06:42:41

Processed: 28-JUN-19 14:13:56

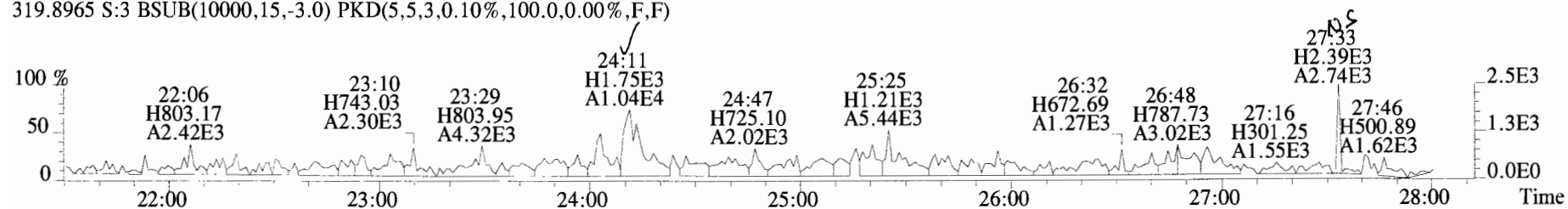
Total Concentration: 1.8185

Unnamed Concentration: 1.163

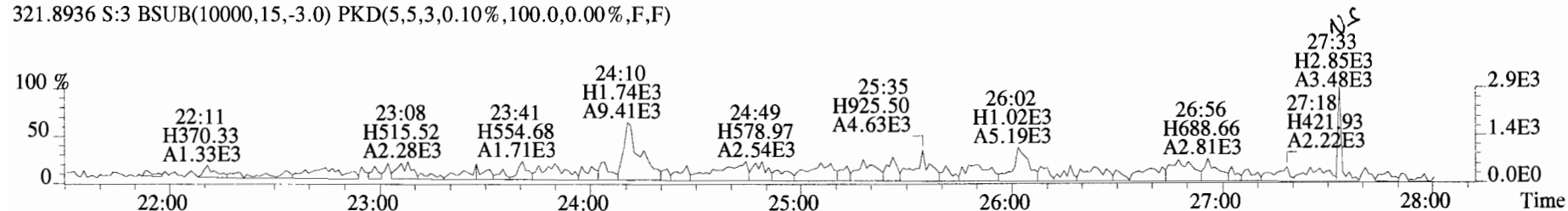
RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:50	1.353e+04	1.255e+04	1.08 y	2.608e+04	1.1629
37:41	7.988e+03	6.713e+03	1.19 y	1.470e+04	0.65555

1,2,3,4,6,7,8-HpCDD

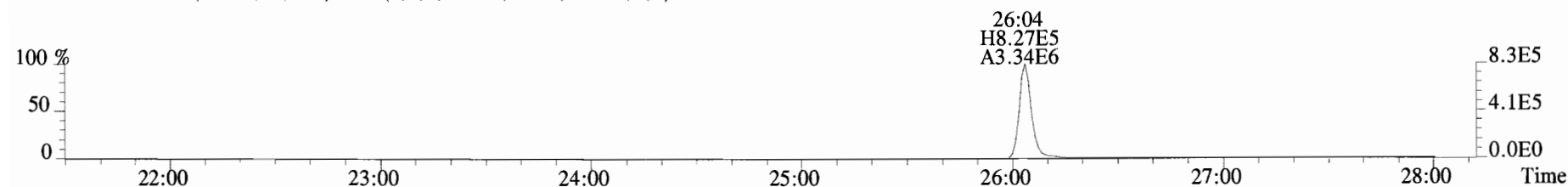
File:190627D2 #1-514 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



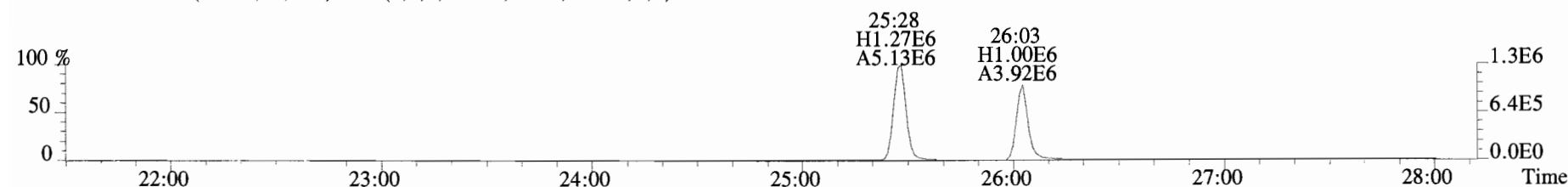
321.8936 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



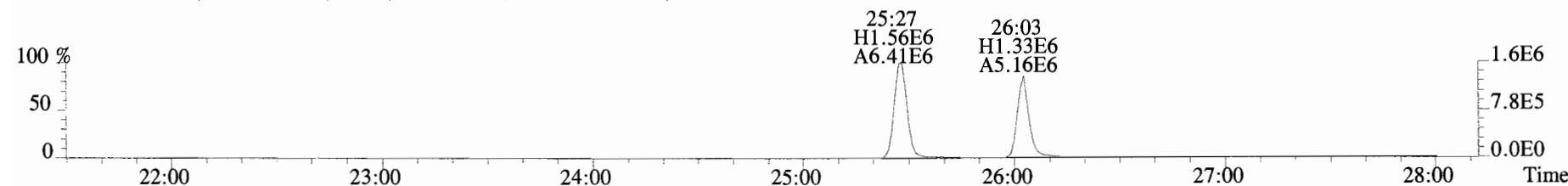
327.8847 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



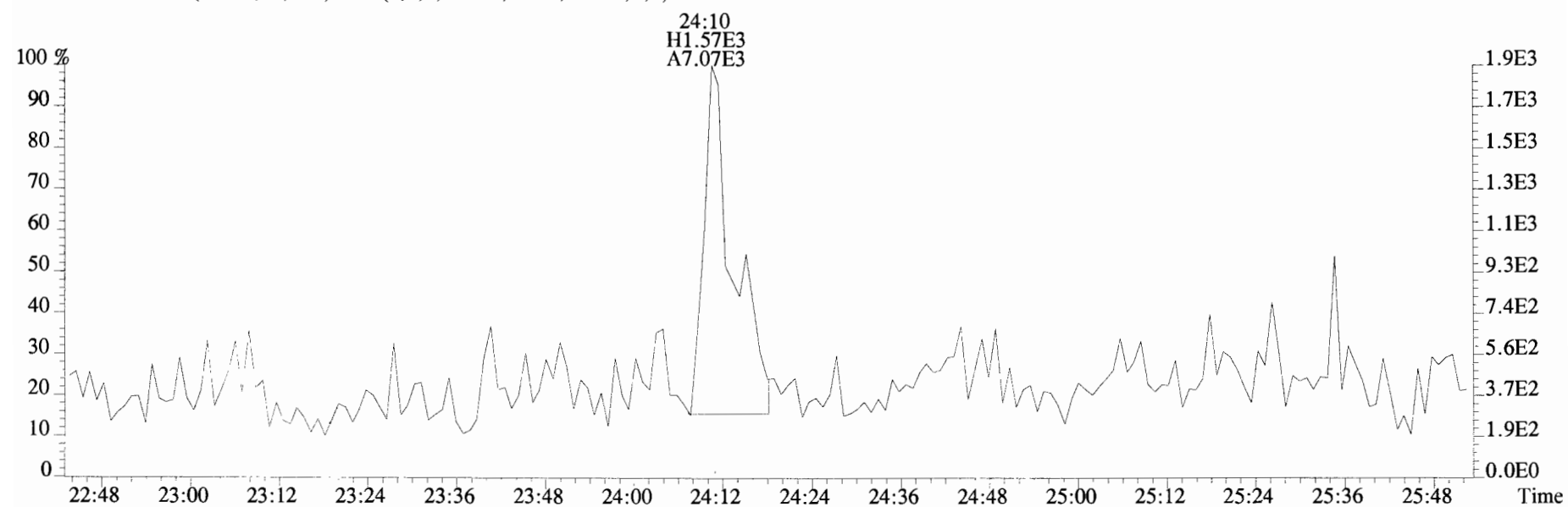
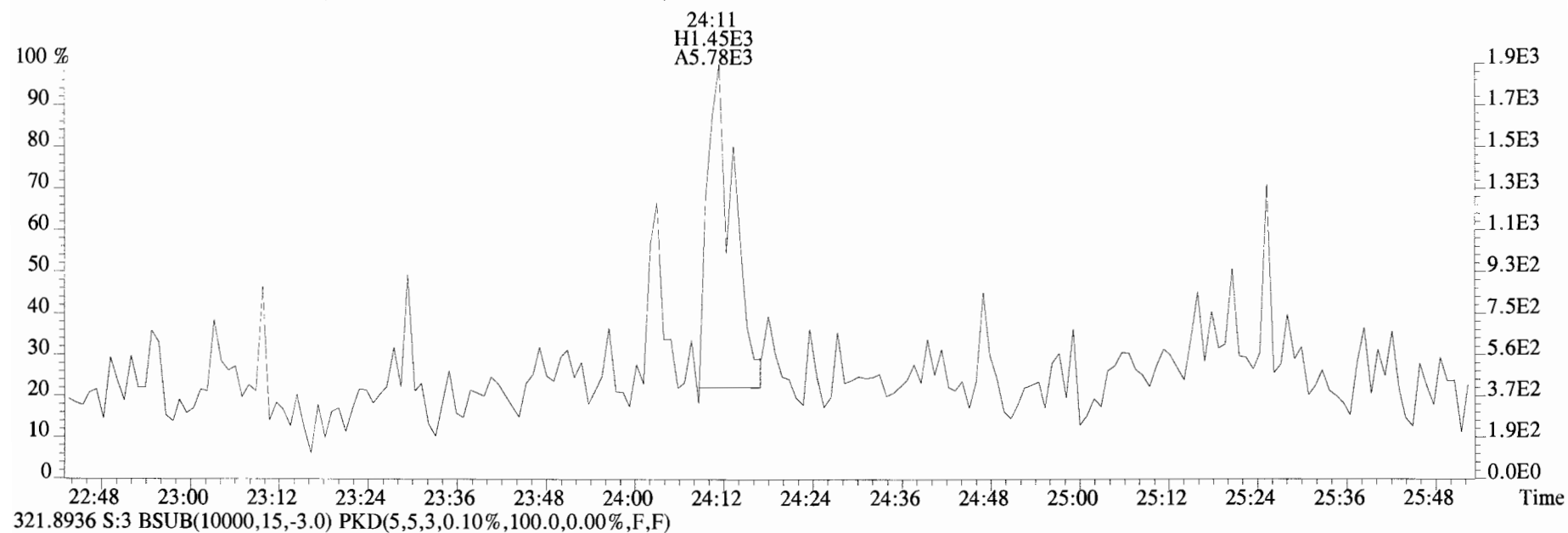
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



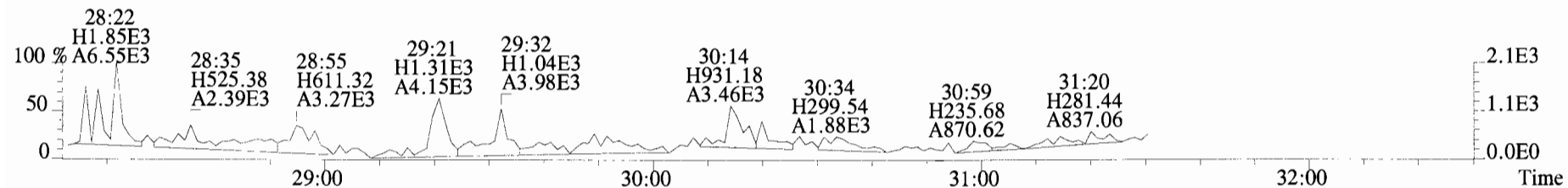
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



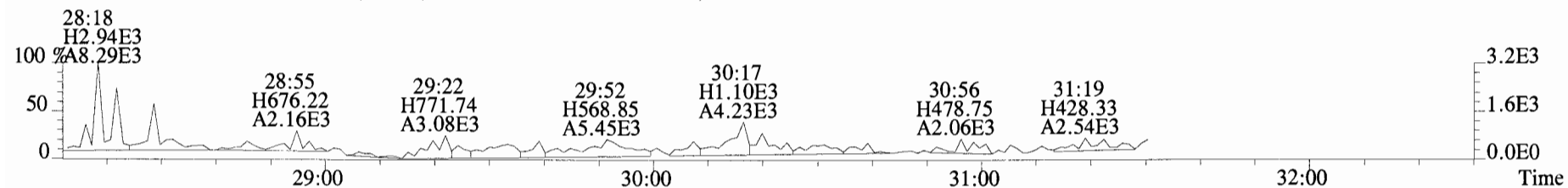
File:190627D2 #1-514 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



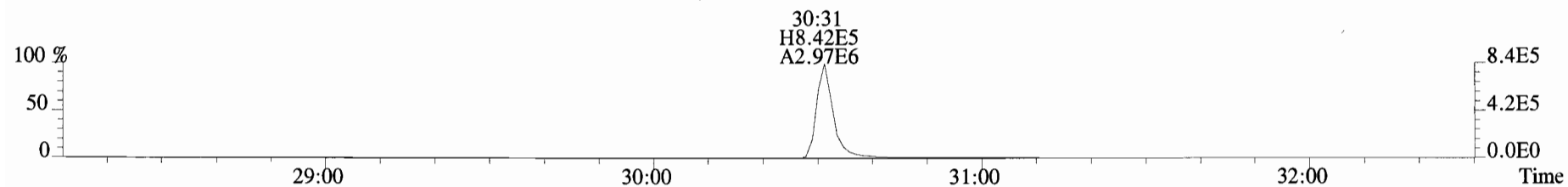
File:190627D2 #1-184 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



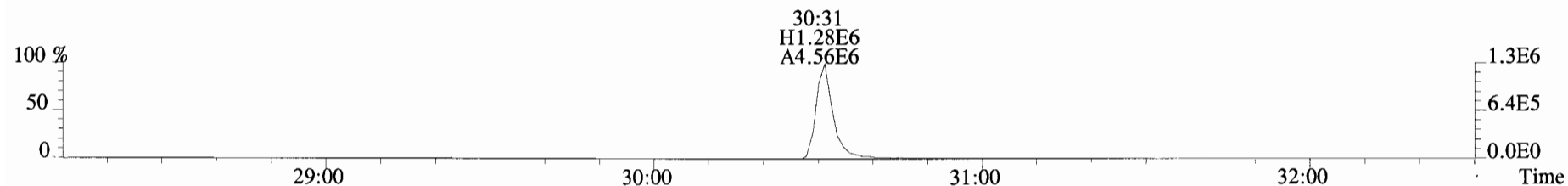
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



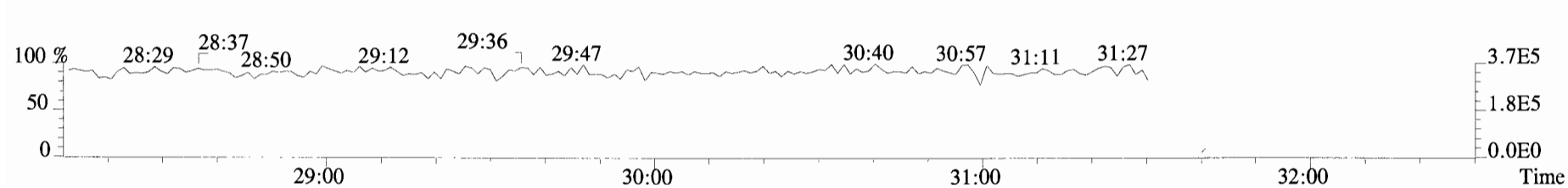
365.8978 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



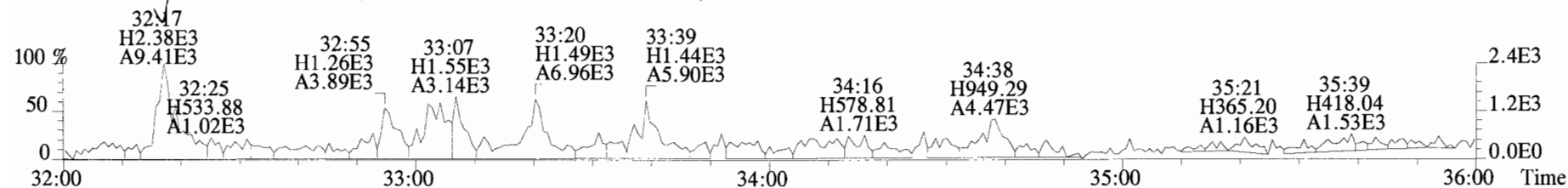
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



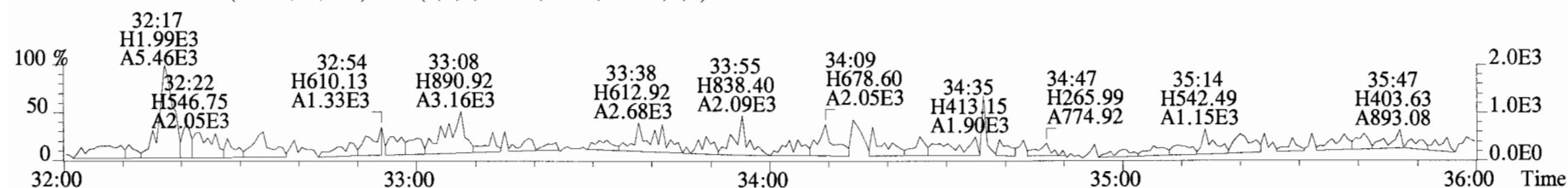
366.9792 S:3 F:2



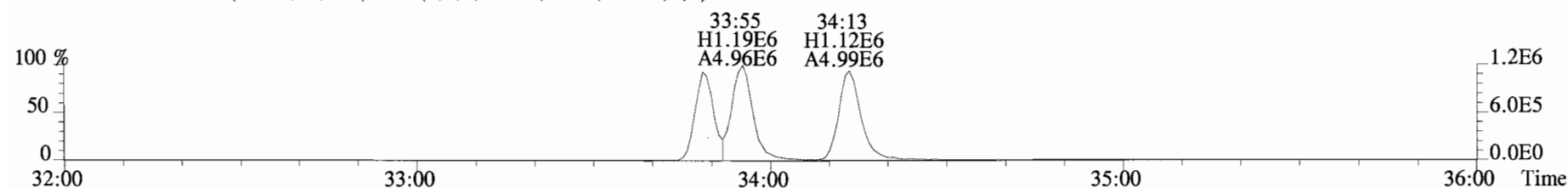
File:190627D2 #1-400 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
 389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



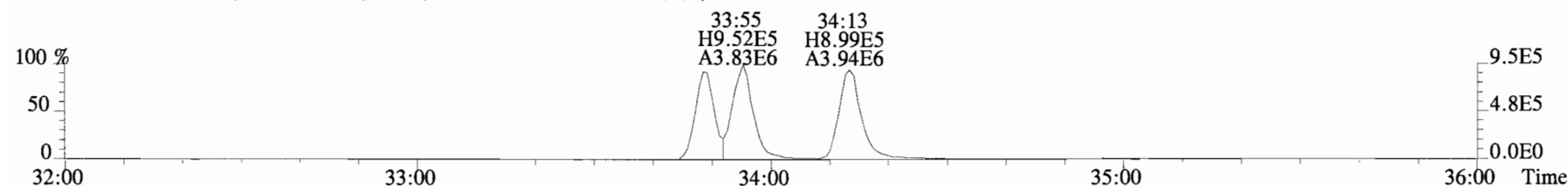
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



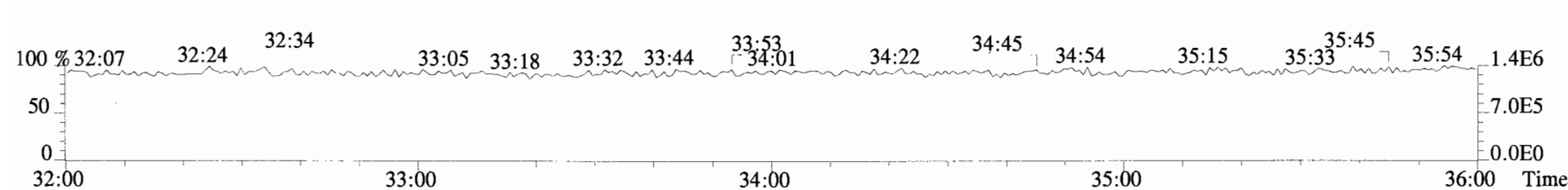
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



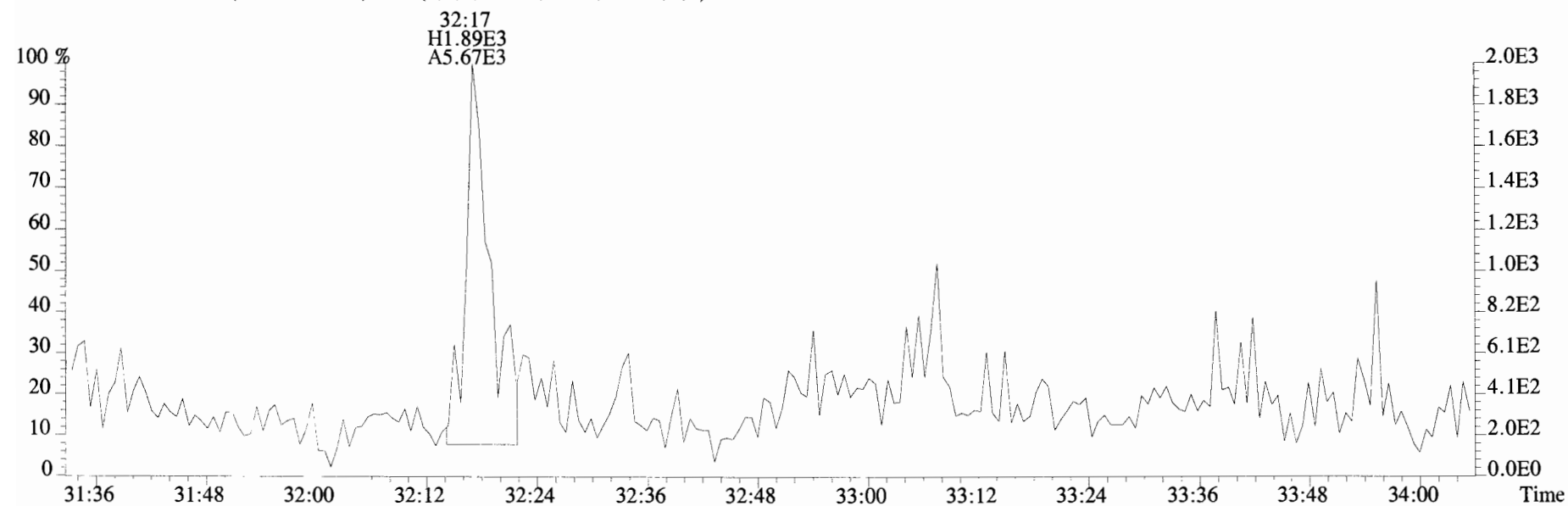
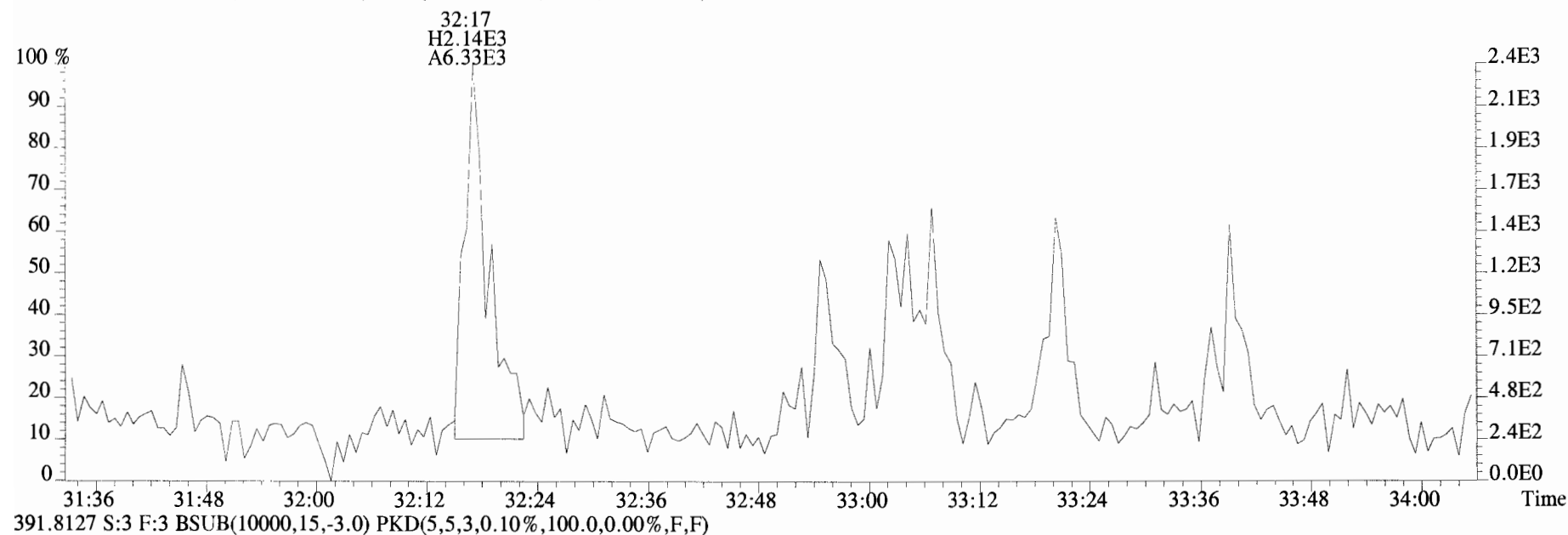
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



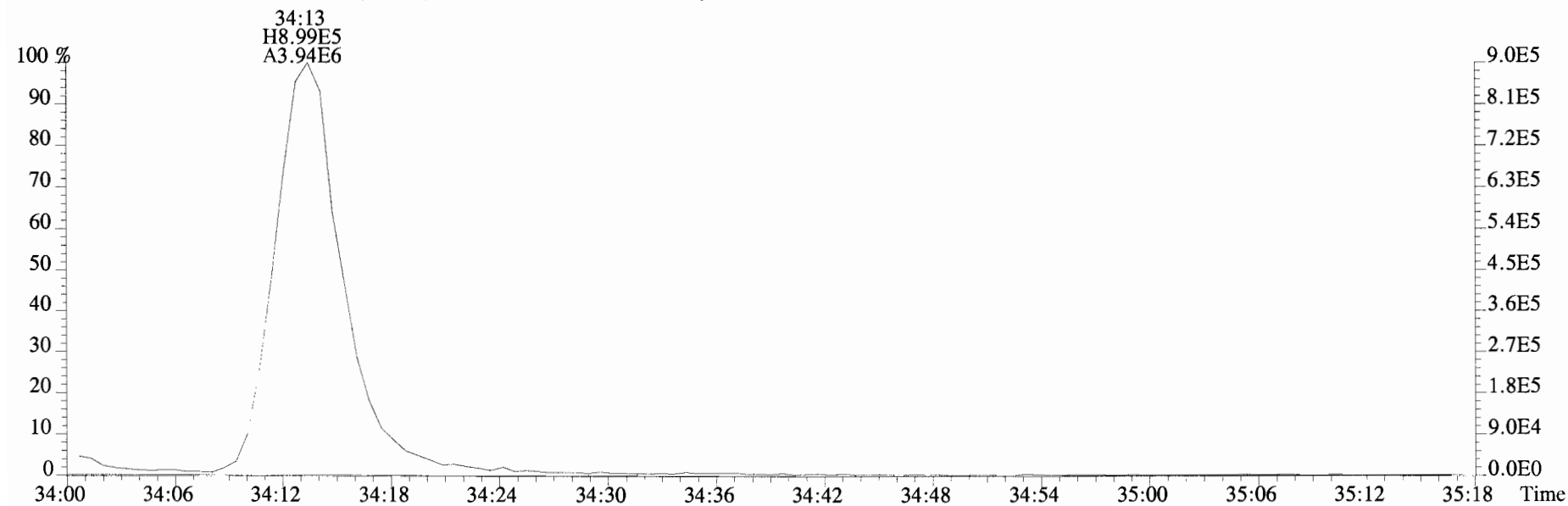
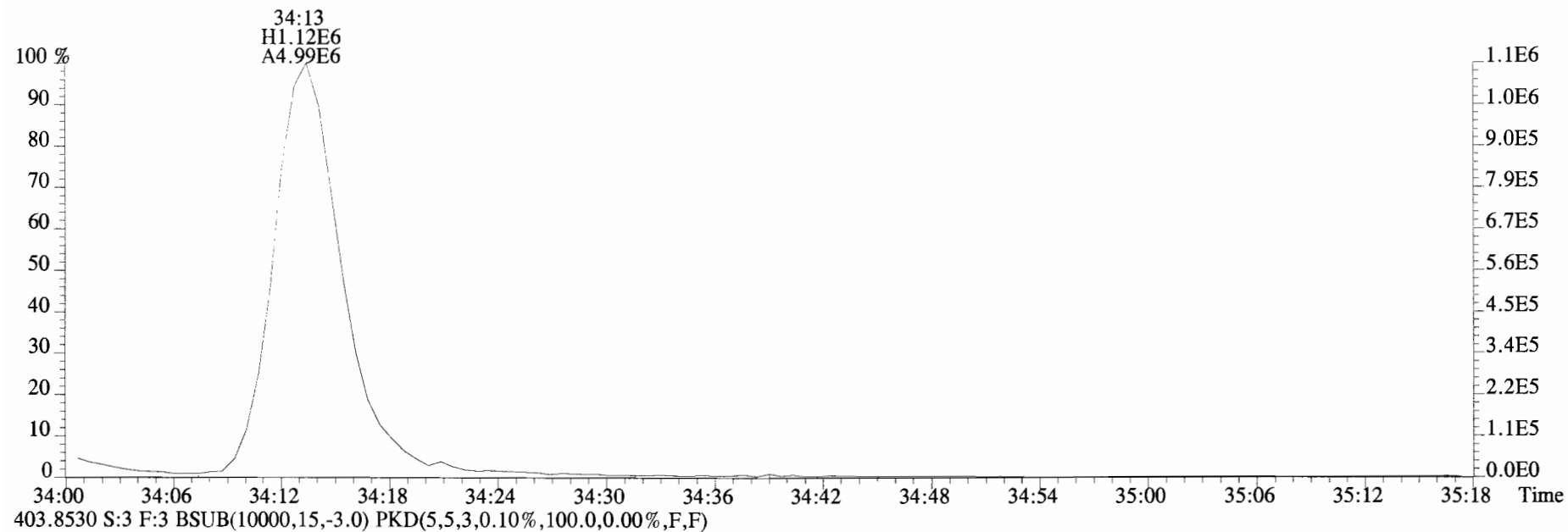
392.9760 S:3 F:3



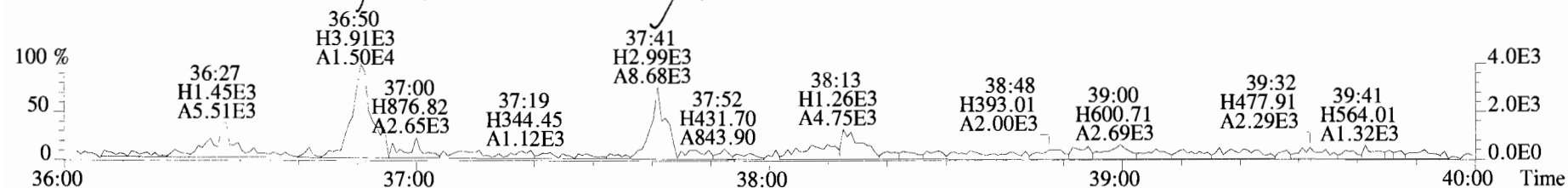
File:190627D2 #1-400 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



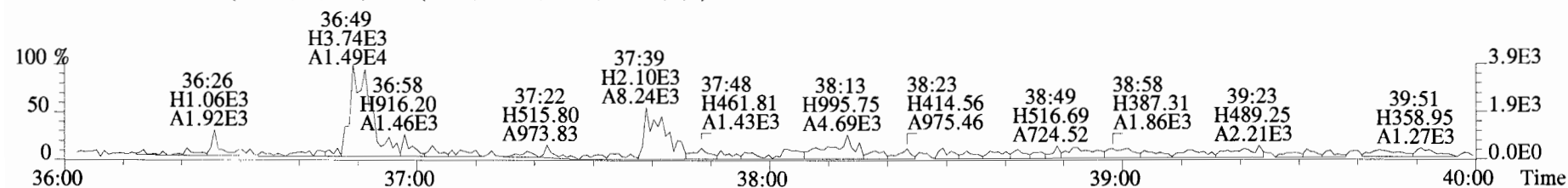
File:190627D2 #1-400 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



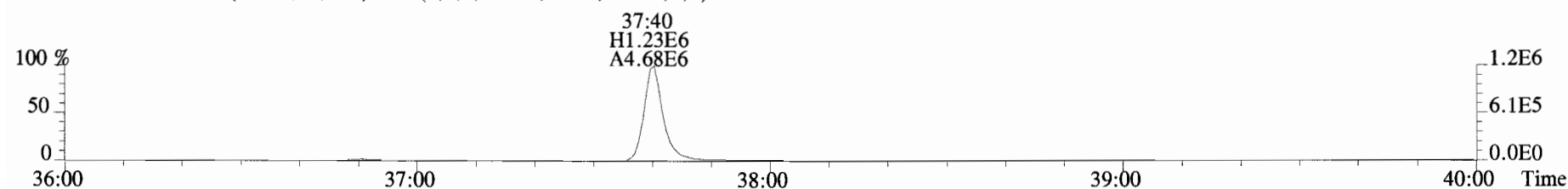
File:190627D2 #1-355 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



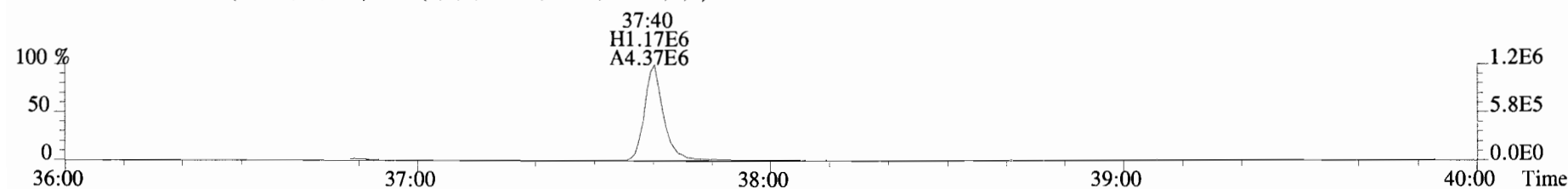
425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



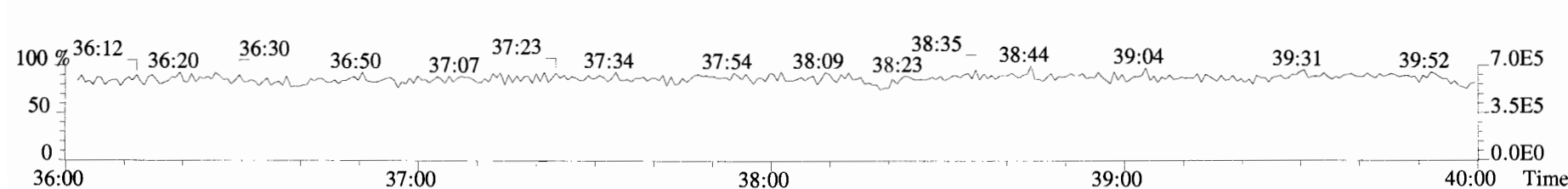
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



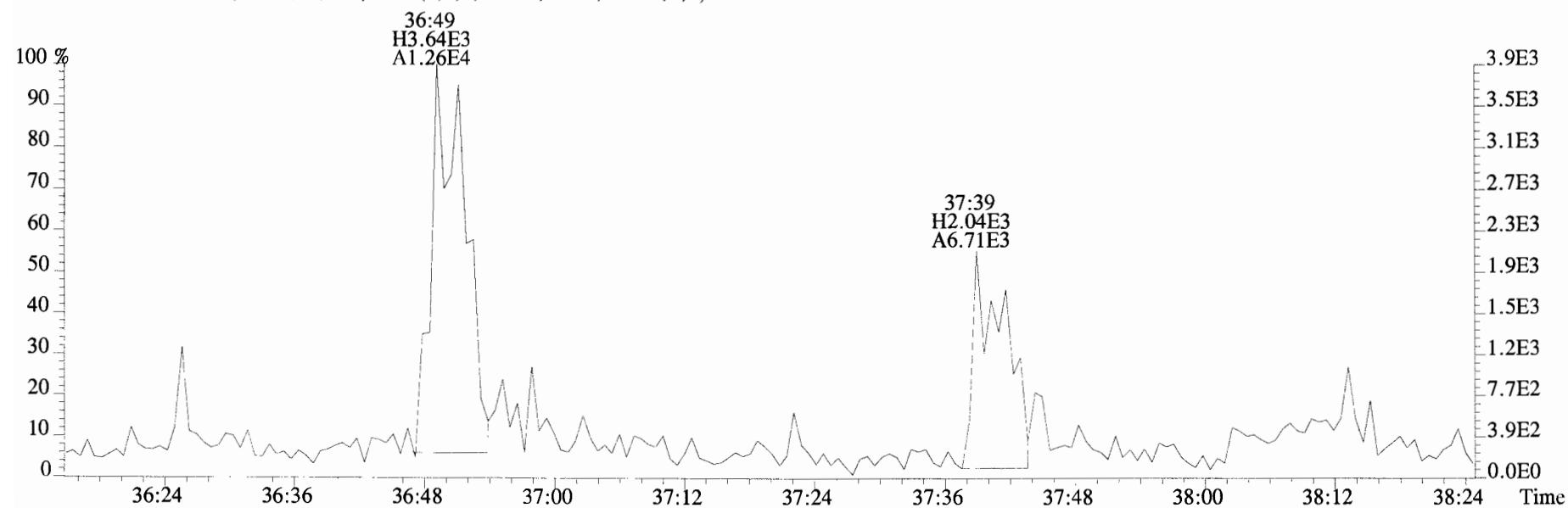
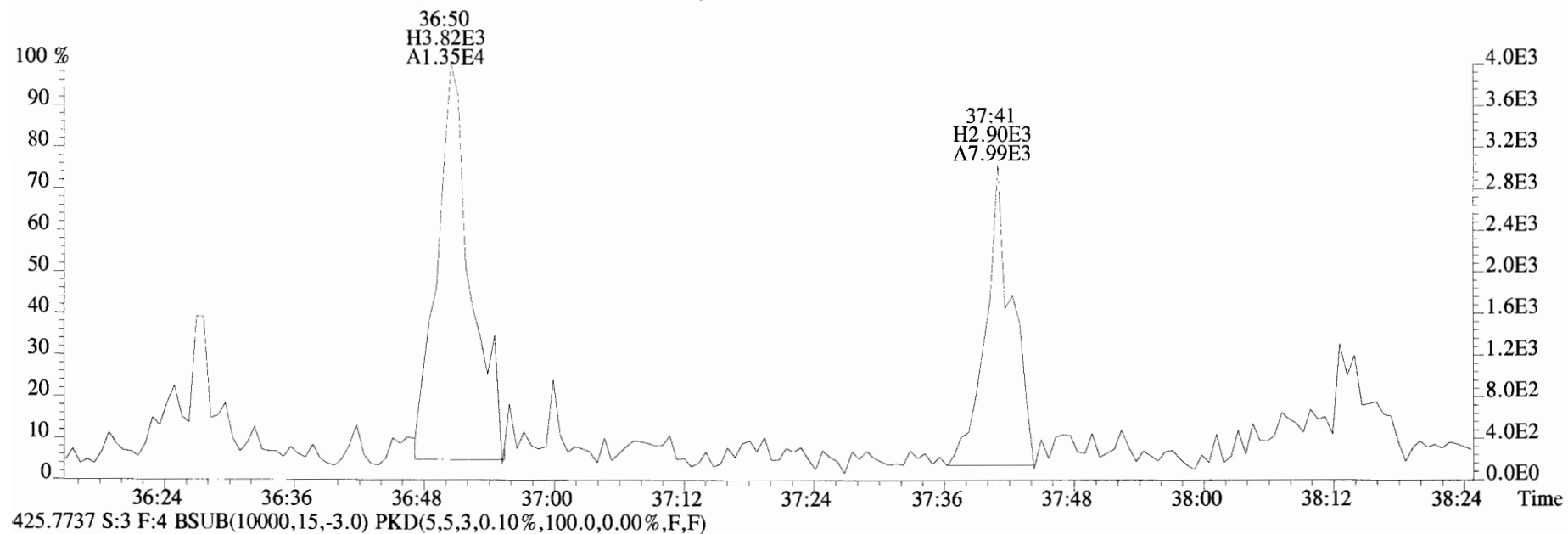
437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



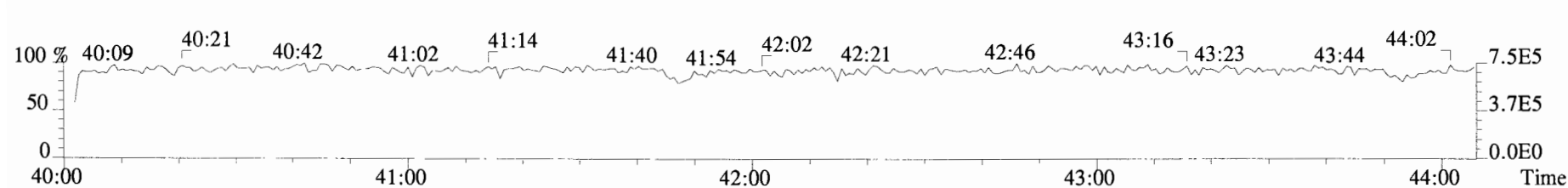
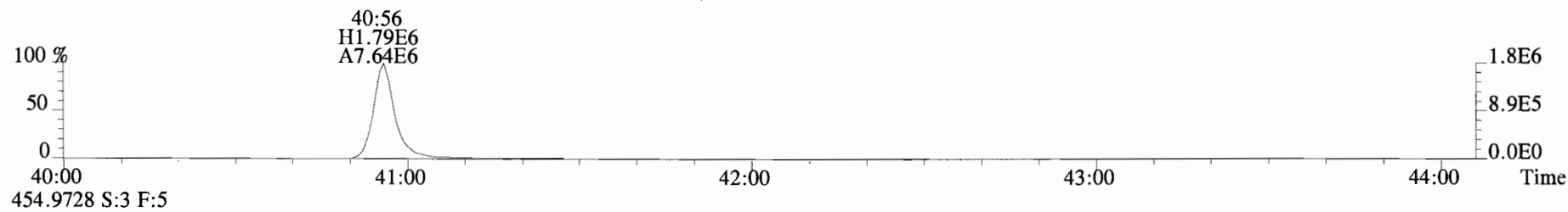
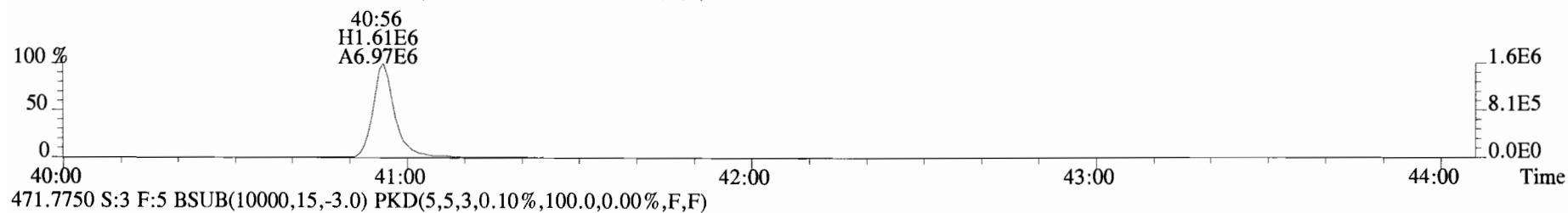
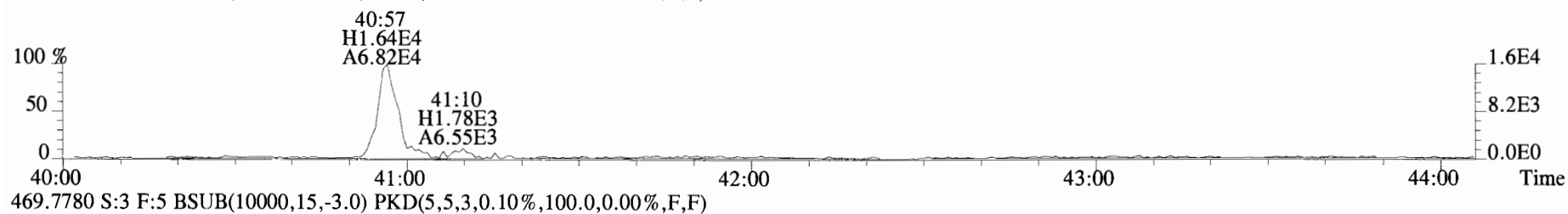
454.9728 S:3 F:4



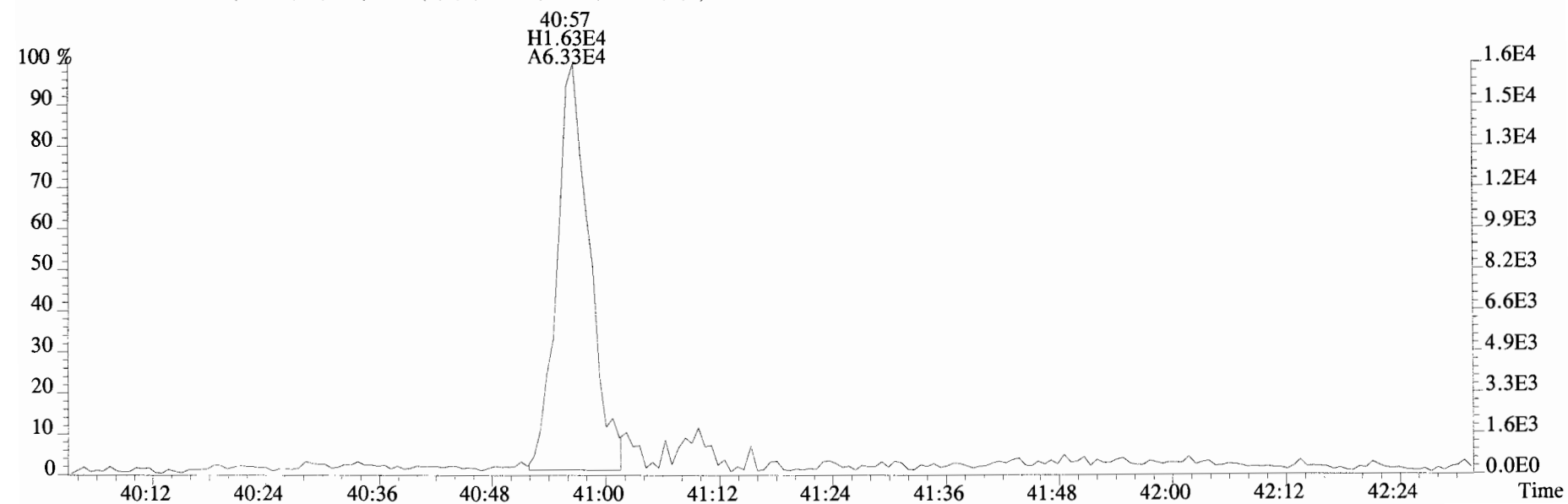
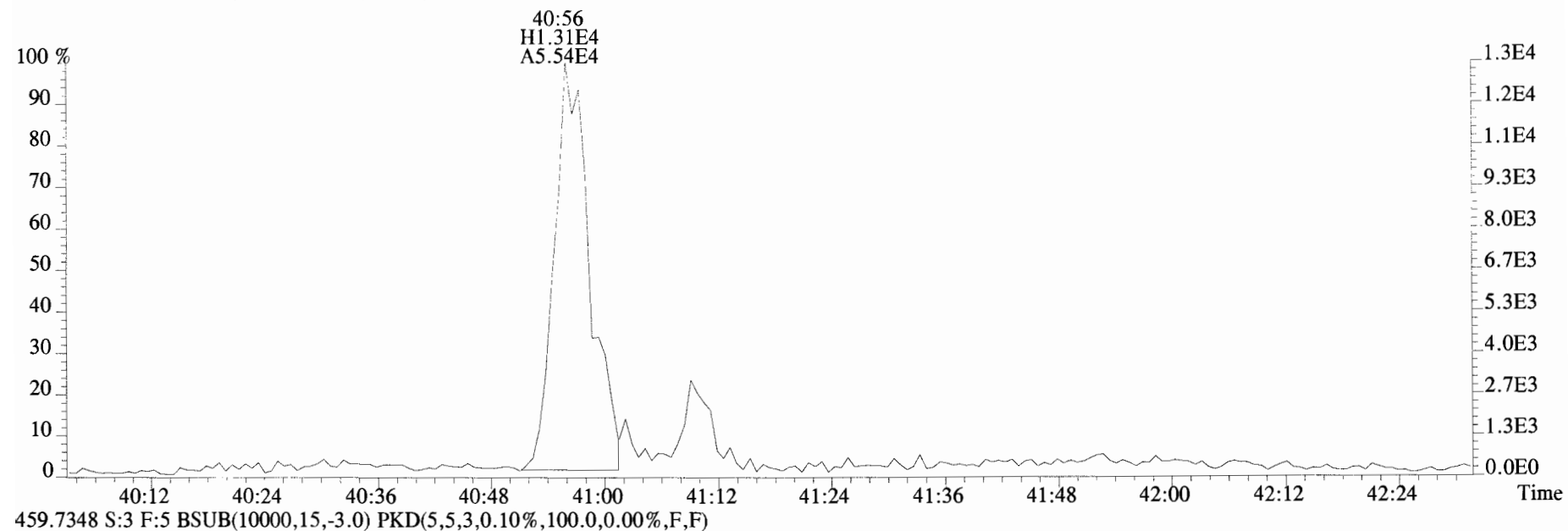
File:190627D2 #1-355 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



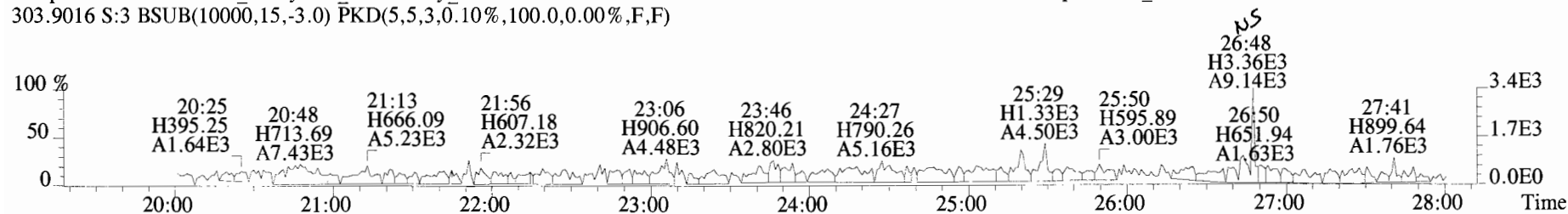
File:190627D2 #1-432 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



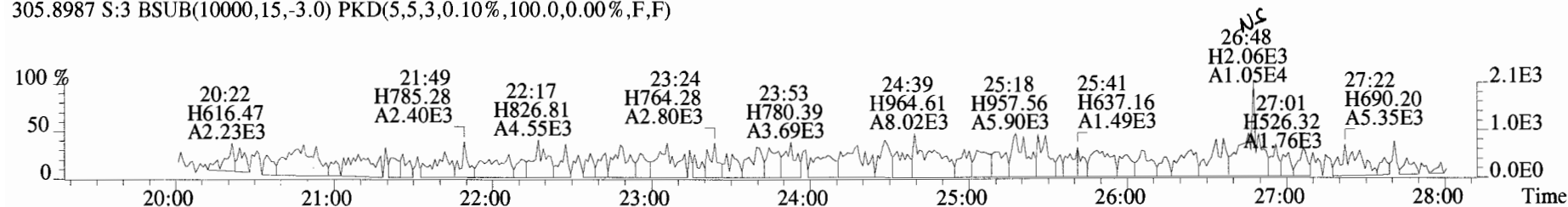
File:190627D2 #1-432 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



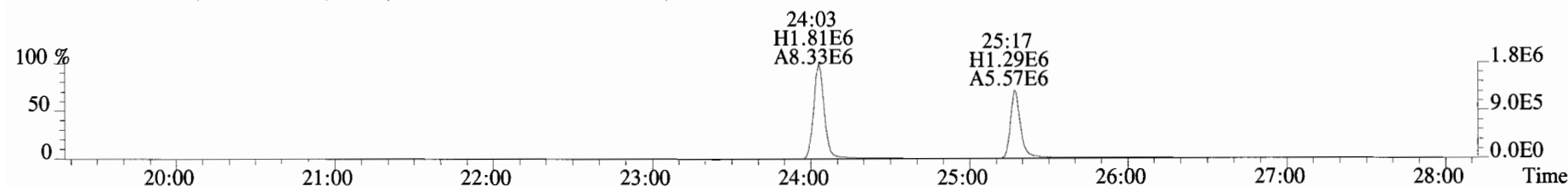
File:190627D2 #1-514 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista Analytical Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



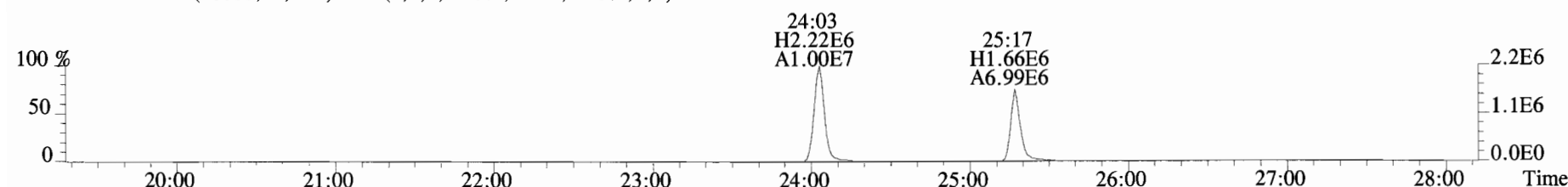
305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



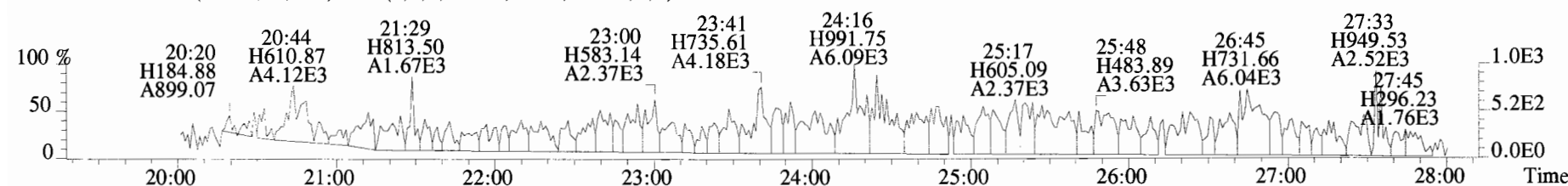
315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



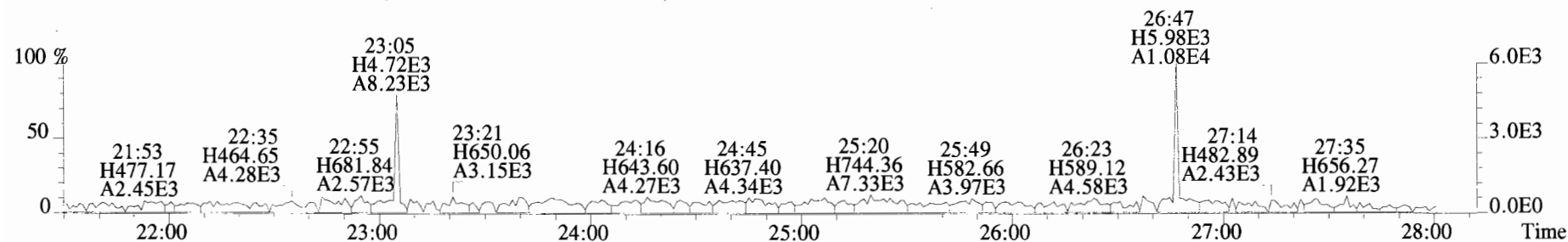
317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



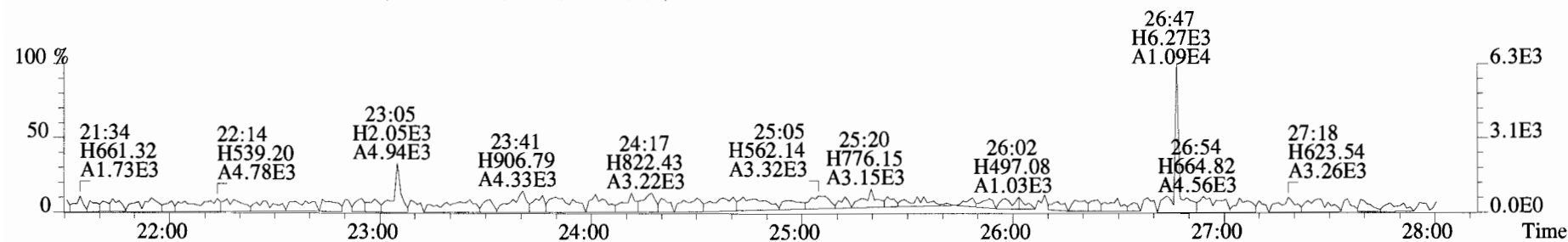
375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



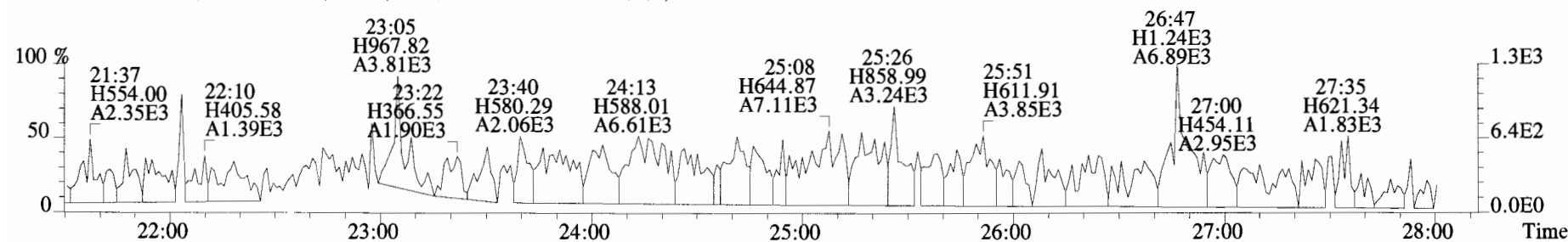
File:190627D2 #1-514 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



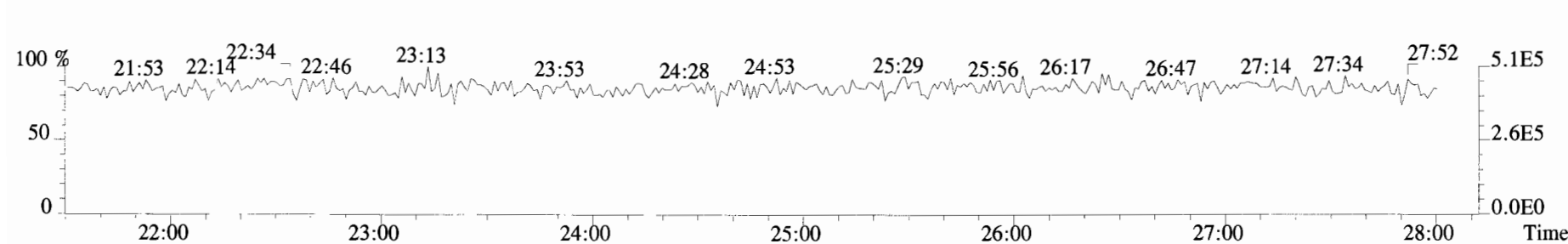
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



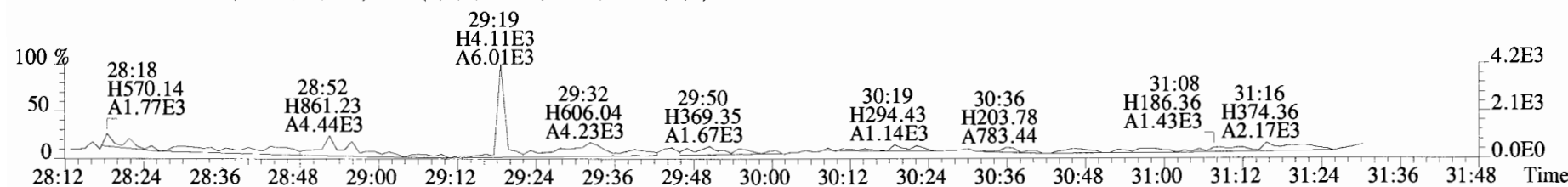
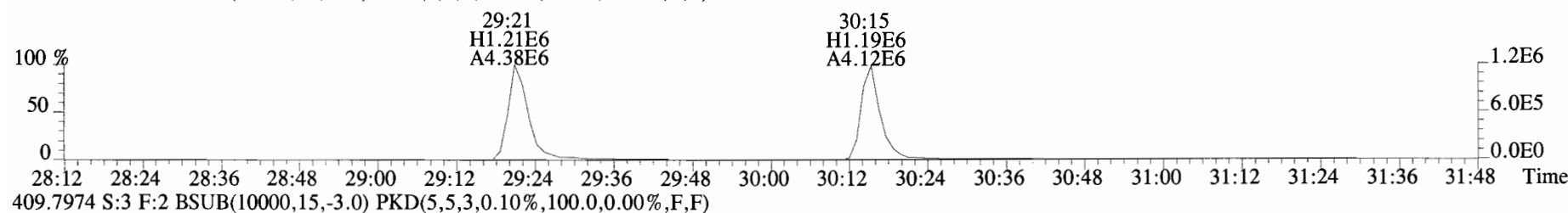
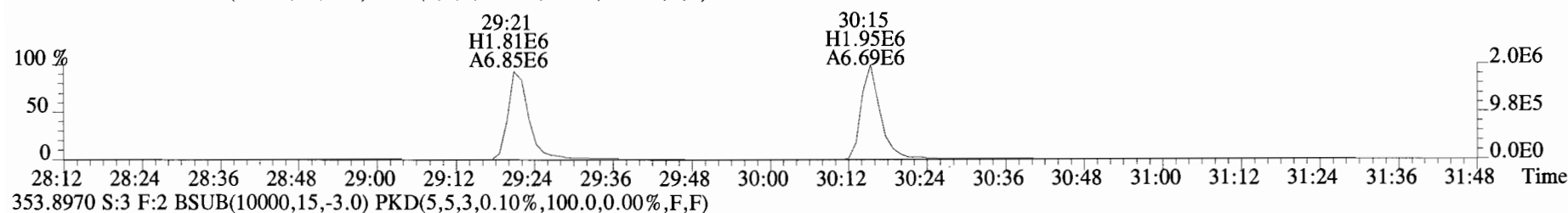
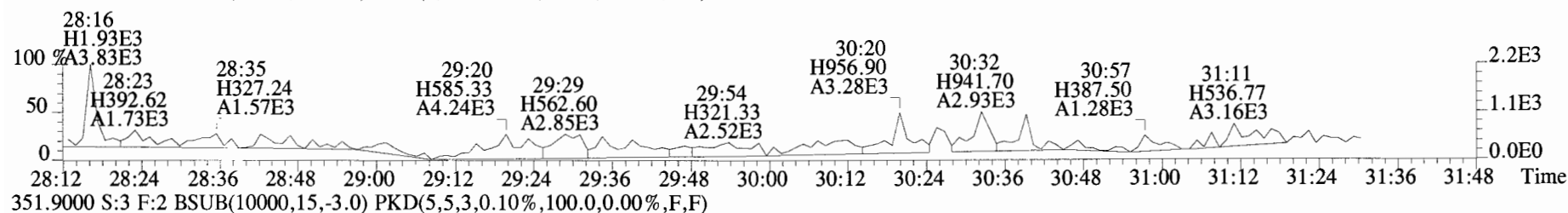
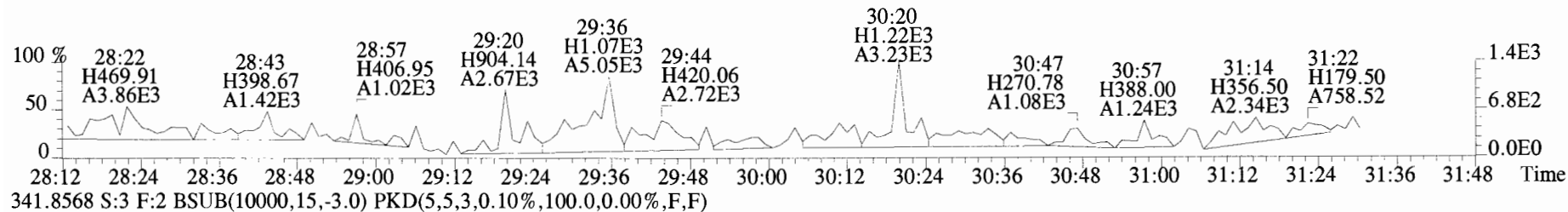
409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



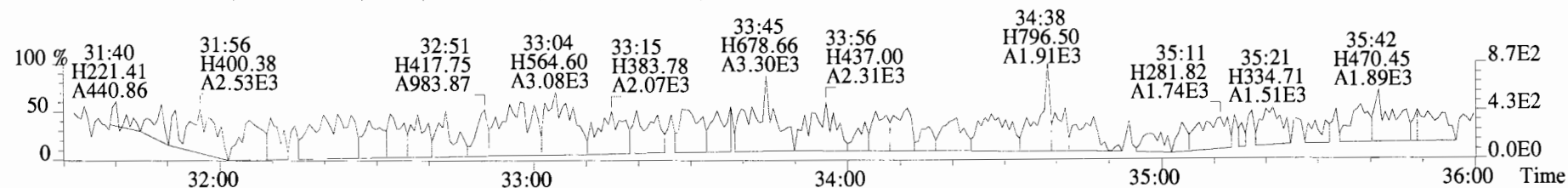
316.9824 S:3



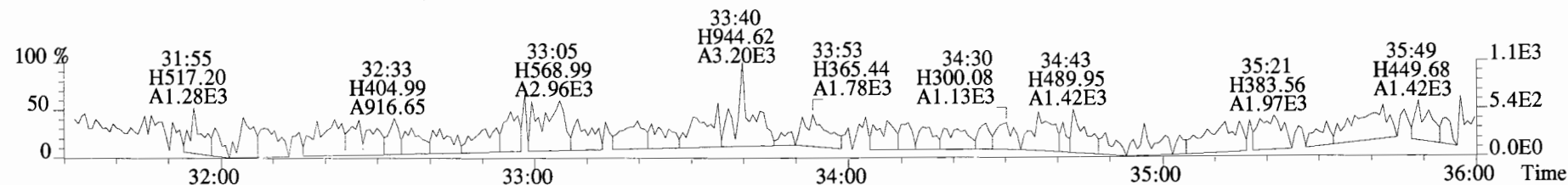
File:190627D2 #1-184 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



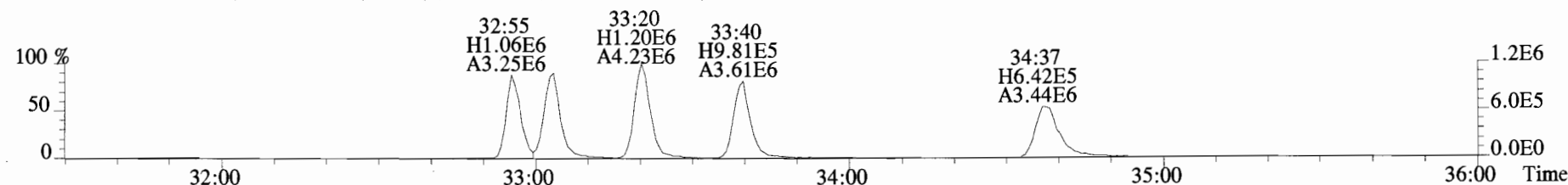
File:190627D2 #1-400 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



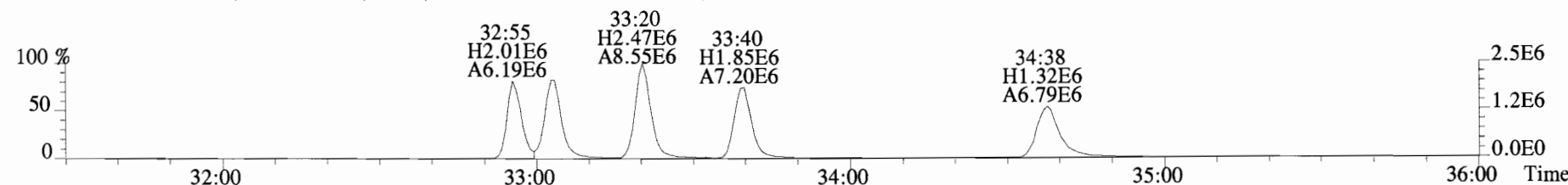
375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



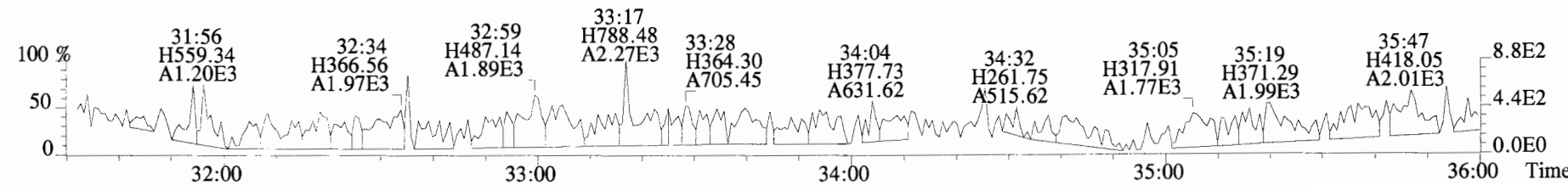
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



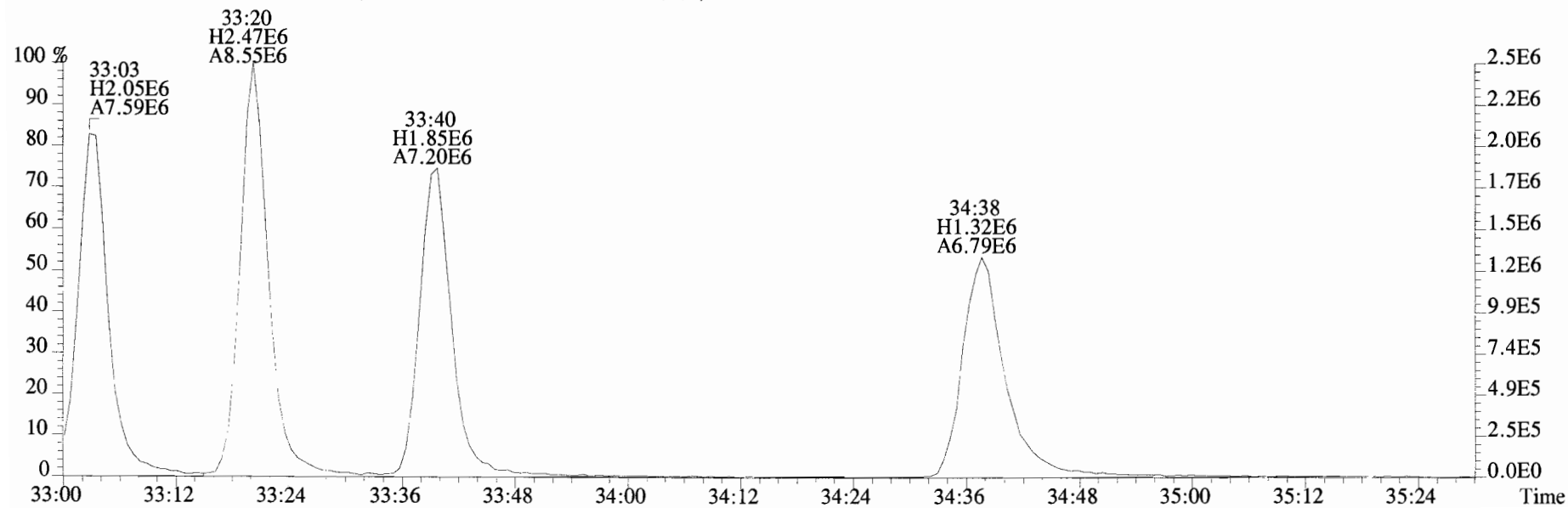
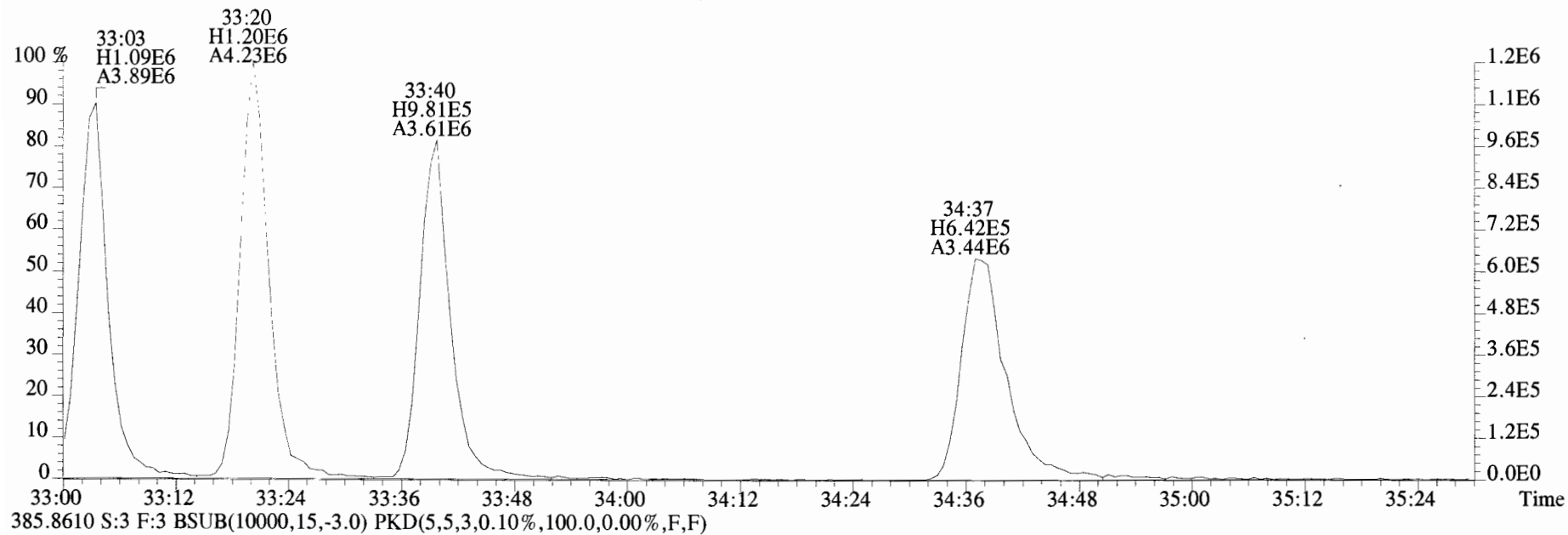
385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



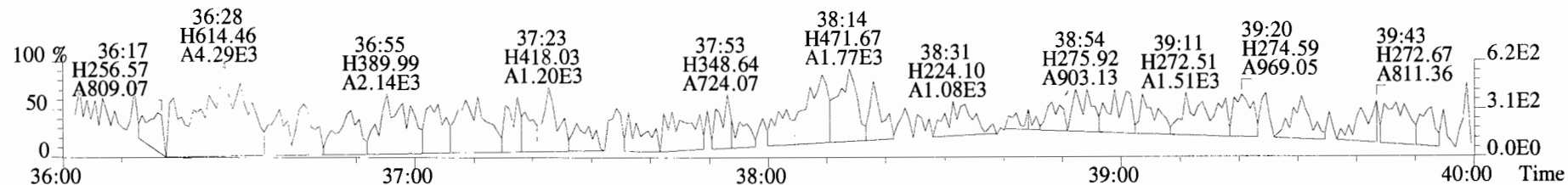
445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



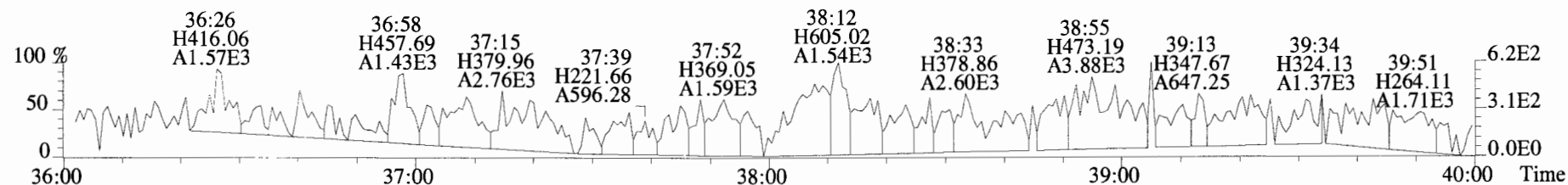
File:190627D2 #1-400 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
 383.8639 S:3 F:3 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



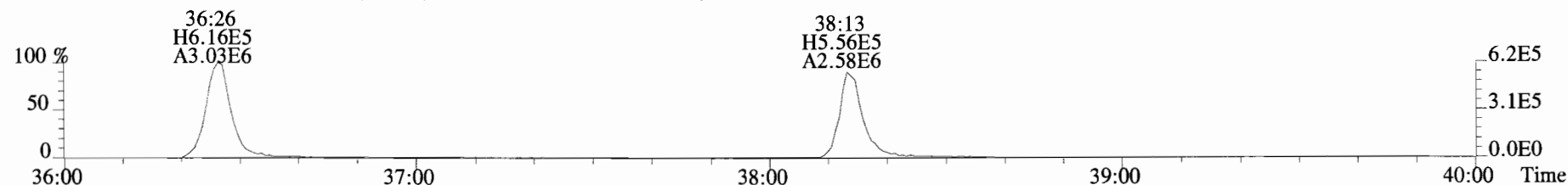
File:190627D2 #1-355 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



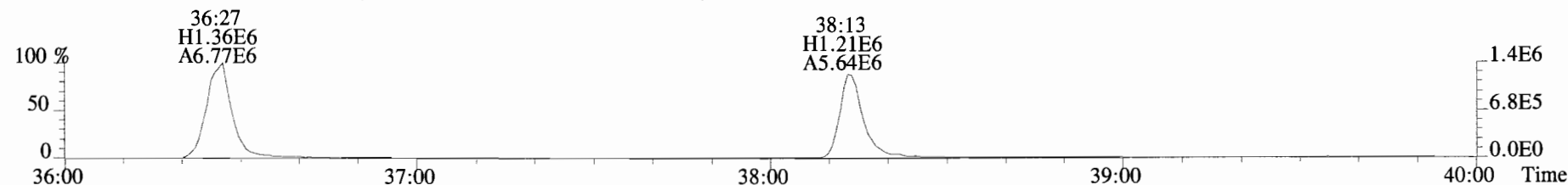
409.7788 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



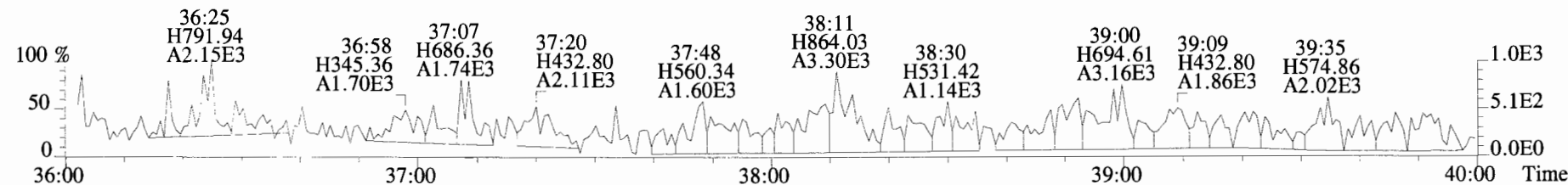
417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



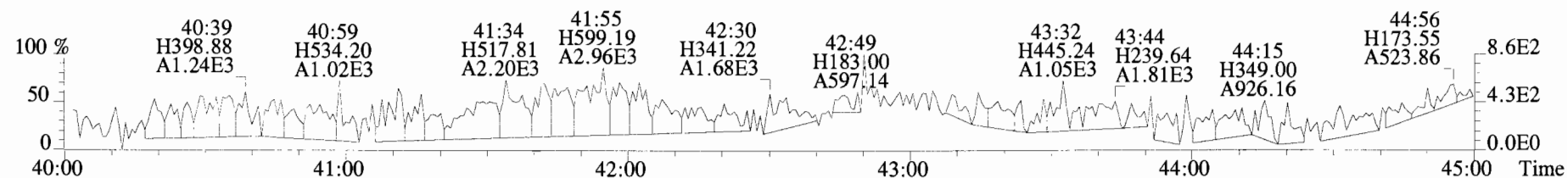
419.8220 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



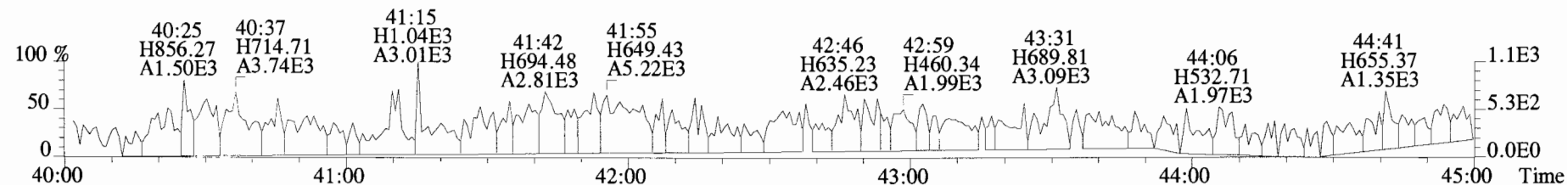
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



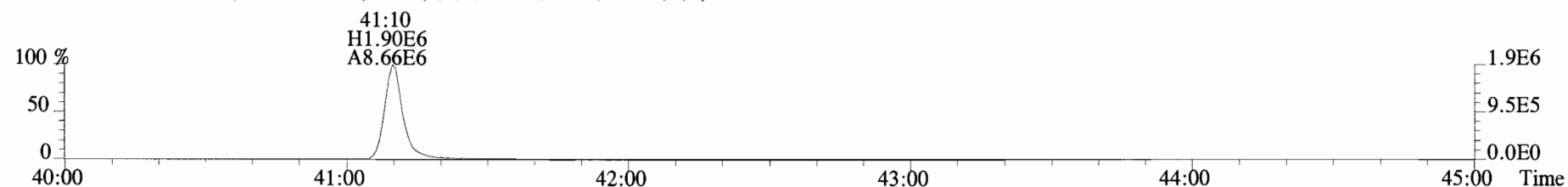
File:190627D2 #1-432 Acq:28-JUN-2019 06:42:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory_VG7 Text:1901246-10 T4-PDI2019-SC13-190521-09-11.1 6.97 Exp:OCDD_DB5
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



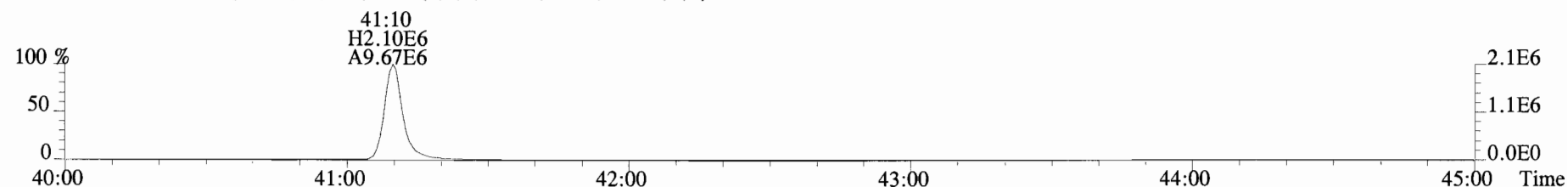
443.7398 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



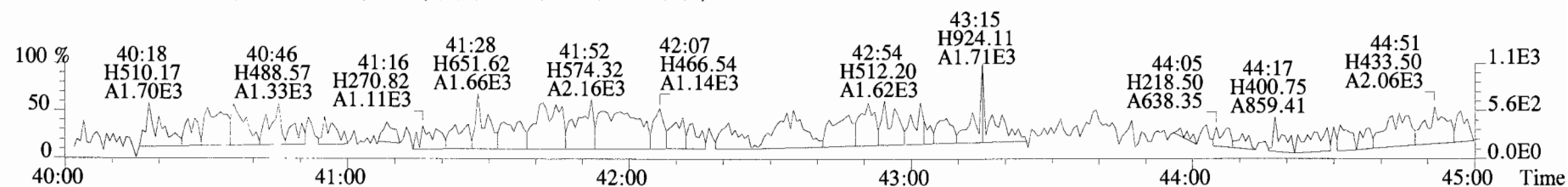
453.7831 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: FD-201905211730
Lab ID: 1901246-11

Filename: 190627D2 S:4 Acq:28-JUN-19 07:30:24
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.041

ConCal: ST190627D2-1
EndCAL: NA

Page 3 of 3

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	*	* n	0.90	NotF ₇	*		239	2.5	0.223
	1,2,3,7,8-PeCDD	*	* n	0.87	NotF ₇	*		269	2.5	0.267
	1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF ₇	*		219	2.5	0.269
	1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF ₇	*		219	2.5	0.264
	1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF ₇	*		219	2.5	0.278
	1,2,3,4,6,7,8-HpCDD	1.28e+05	0.95 y	0.99	37:40	6.7066		*	2.5	*
	OCDD	9.53e+05	0.88 y	0.99	40:56	55.363		*	2.5	*
	2,3,7,8-TCDF	*	* n	0.94	NotF ₇	*		321	2.5	0.218
	1,2,3,7,8-PeCDF	*	* n	0.92	NotF ₇	*		276	2.5	0.244
	2,3,4,7,8-PeCDF	*	* n	0.96	NotF ₇	*		276	2.5	0.271
	1,2,3,4,7,8-HxCDF	6.68e+03	0.98 n	1.15	32:56	0.26081		*	2.5	*
	1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF ₇	*		147	2.5	0.0757
	2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF ₇	*		147	2.5	0.0768
	1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF ₇	*		147	2.5	0.126
	1,2,3,4,6,7,8-HpCDF	2.02e+04	1.18 y	1.06	36:26	0.88925		*	2.5	*
	1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF ₇	*		211	2.5	0.156
	OCDF	3.01e+04	0.85 y	0.94	41:10	1.4972		*	2.5	*
IS	13C-2,3,7,8-TCDD	8.67e+06	0.81 y	1.11	26:03	304.84				
IS	13C-1,2,3,7,8-PeCDD	7.12e+06	0.65 y	0.98	30:31	283.79				
IS	13C-1,2,3,4,7,8-HxCDD	6.35e+06	1.26 y	0.68	33:48	321.41				
IS	13C-1,2,3,6,7,8-HxCDD	8.57e+06	1.29 y	0.84	33:54	348.19				
IS	13C-1,2,3,7,8,9-HxCDD	8.08e+06	1.30 y	0.81	34:13	339.91				
IS	13C-1,2,3,4,6,7,8-HpCDD	7.68e+06	1.08 y	0.69	37:40	382.87				
IS	13C-OCDD	1.39e+07	0.90 y	0.62	40:56	757.78				
IS	13C-2,3,7,8-TCDF	1.19e+07	0.78 y	1.05	25:18	268.05				
IS	13C-1,2,3,7,8-PeCDF	1.12e+07	1.56 y	0.95	29:21	277.54				
IS	13C-2,3,4,7,8-PeCDF	1.02e+07	1.60 y	0.94	30:15	258.15				
IS	13C-1,2,3,4,7,8-HxCDF	8.81e+06	0.51 y	0.86	32:55	351.16				
IS	13C-1,2,3,6,7,8-HxCDF	1.06e+07	0.51 y	1.02	33:03	355.75				
IS	13C-2,3,4,6,7,8-HxCDF	1.01e+07	0.51 y	0.95	33:39	362.59				
IS	13C-1,2,3,7,8,9-HxCDF	9.18e+06	0.53 y	0.87	34:38	361.51				
IS	13C-1,2,3,4,6,7,8-HpCDF	8.47e+06	0.45 y	0.81	36:26	357.92				
IS	13C-1,2,3,4,7,8,9-HpCDF	7.13e+06	0.46 y	0.63	38:14	385.61				
IS	13C-OCDF	1.69e+07	0.89 y	0.78	41:10	740.25				
C/Up	37C1-2,3,7,8-TCDD	3.52e+06		1.22	26:04	112.54				
RS/RT	13C-1,2,3,4-TCDD	1.02e+07	0.81 y	1.00	25:28	396.74				
RS	13C-1,2,3,4-TCDF	1.68e+07	0.81 y	1.00	24:04	396.74				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.16e+07	0.51 y	1.00	33:20	396.74				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		239	0.223
Total Penta-Dioxins	*	*		269	0.267
Total Hexa-Dioxins	3.73	3.73		*	*
Total Hepta-Dioxins	17.9	17.9		*	*
Total Tetra-Furans	*	*		321	0.218
Total Penta-Furans	0.0000	0.0000		276	0.257
Total Hexa-Furans	*	1.10		*	*
Total Hepta-Furans	2.48	2.48		*	*

Rec Qual

76.8
71.5
81.0
87.8
85.7
96.5
95.5
67.6
70.0
65.1
88.5
89.7
91.4
91.1
90.2
97.2
93.3

70.9

Integrations
by
Analyst: DB

Date: 8/5/19

Reviewed
by
Analyst: CT

Date: 08/08/19

Totals class: HxCDD EMPC

Entry #: 23

Run: 9

File: 190627D2

S: 4 I: 1 F: 3

Acquired: 28-JUN-19 07:30:24

Processed: 28-JUN-19 14:14:09

Total Concentration: 3.7261

Unnamed Concentration: 3.726

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:17	2.565e+04	2.107e+04	1.22 y	4.672e+04	2.4767
33:06	1.382e+04	9.751e+03	1.42 y	2.357e+04	1.2495

Totals class: HpCDD EMPC

Entry #: 25

Run: 9

File: 190627D2

S: 4 I: 1 F: 4

Acquired: 28-JUN-19 07:30:24

Processed: 28-JUN-19 14:14:09

Total Concentration: 17.909

Unnamed Concentration: 11.202

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:50	1.041e+05	1.105e+05	0.94 y	2.145e+05	11.202
37:40	6.272e+04	6.573e+04	0.95 y	1.284e+05	6.7066

1,2,3,4,6,7,8-HpCDD

Totals class: HxCDF EMPC

Entry #: 33

Run: 9

File: 190627D2

S: 4 I: 1 F: 3

Acquired: 28-JUN-19 07:30:24

Processed: 28-JUN-19 14:14:09

Total Concentration: 1.1015

Unnamed Concentration: 0.841

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
31:55	4.856e+03	4.873e+03	1.00 n	8.771e+03	0.33353
32:27	7.384e+03	8.086e+03	0.91 n	1.334e+04	0.50718
32:56	3.696e+03	3.788e+03	0.98 n	6.677e+03	0.26081

1,2,3,4,7,8-HxCDF

Totals class: HpCDF EMPC

Entry #: 35

Run: 9

File: 190627D2

S: 4 I: 1 F: 4

Acquired: 28-JUN-19 07:30:24

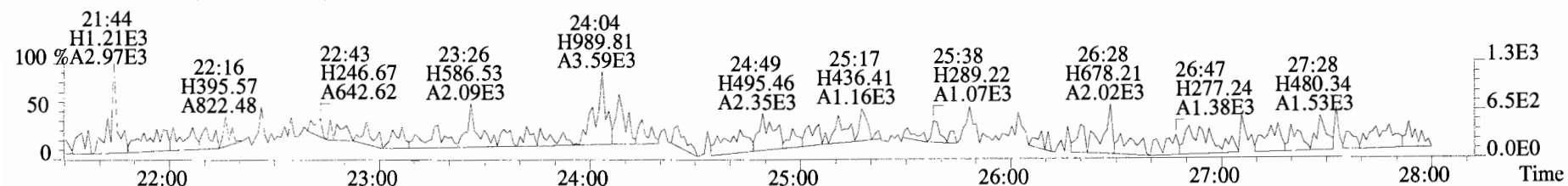
Processed: 28-JUN-19 14:14:09

Total Concentration: 2.4827

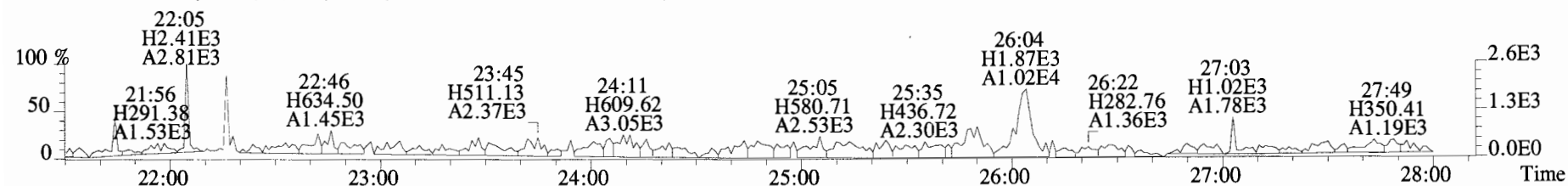
Unnamed Concentration: 1.593

RT	m1 Resp	m2 Resp	RA	Resp Concentration		Name
36:26	1.093e+04	9.276e+03	1.18 y	2.020e+04	0.88925	1,2,3,4,6,7,8-HpCDF
37:03	1.782e+04	1.772e+04	1.01 y	3.555e+04	1.5934	

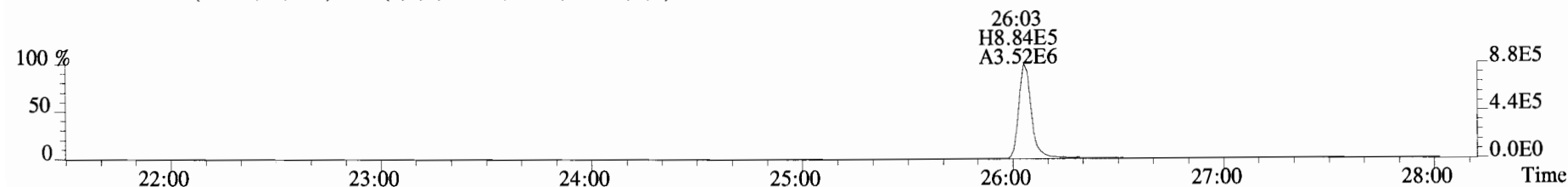
File:190627D2 #1-513 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



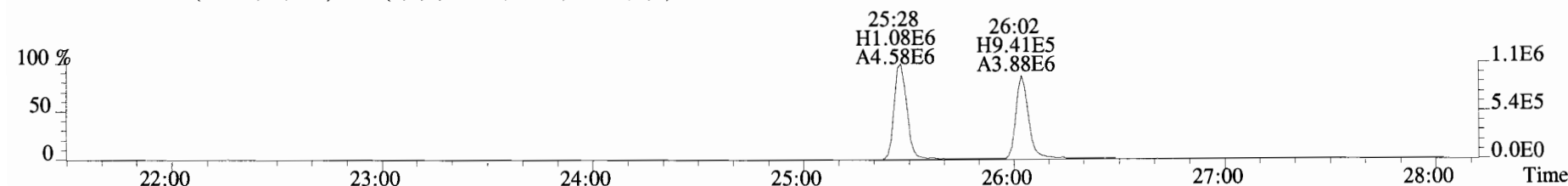
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



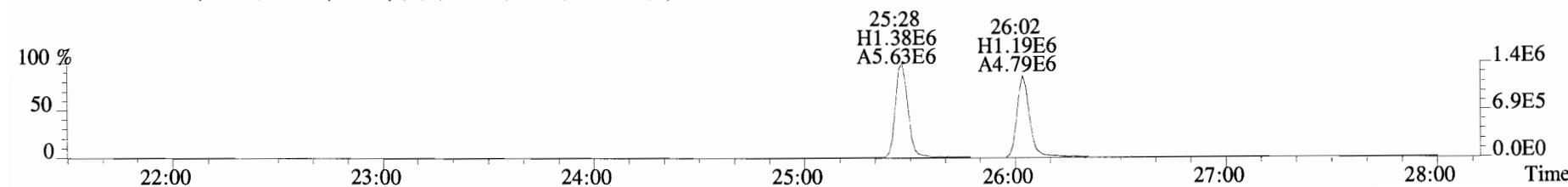
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



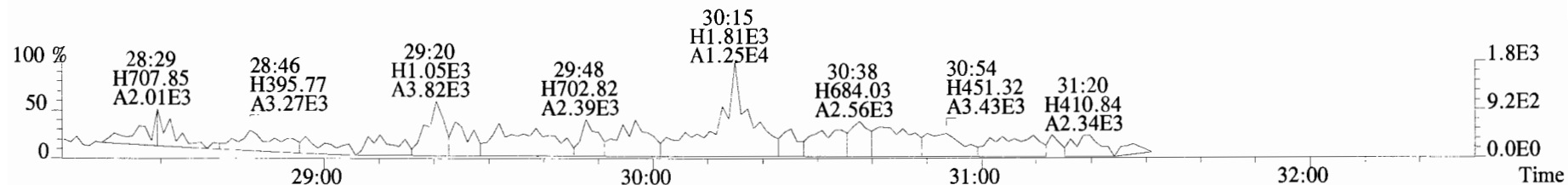
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



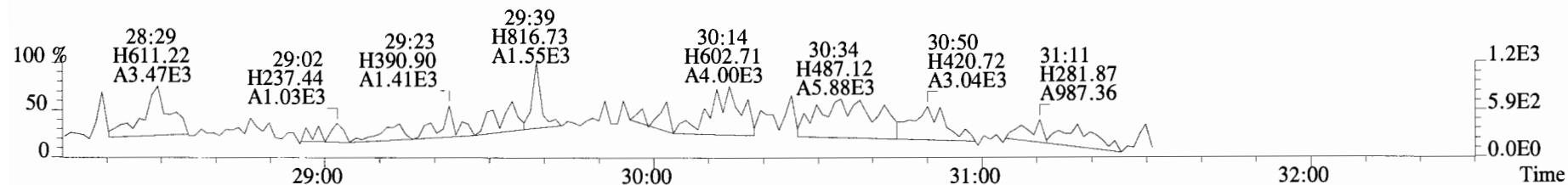
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



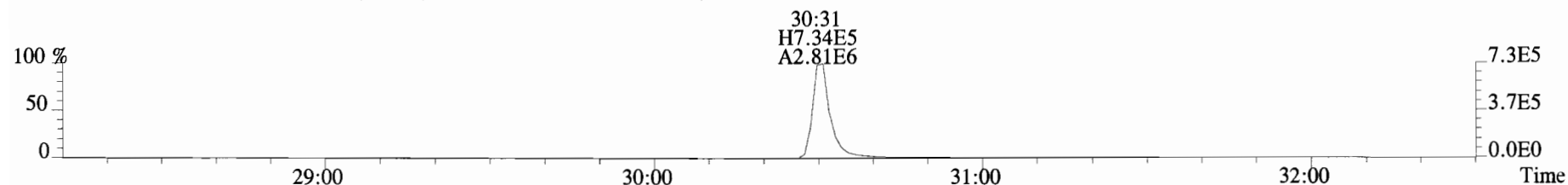
File:190627D2 #1-185 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista_Analytical_Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



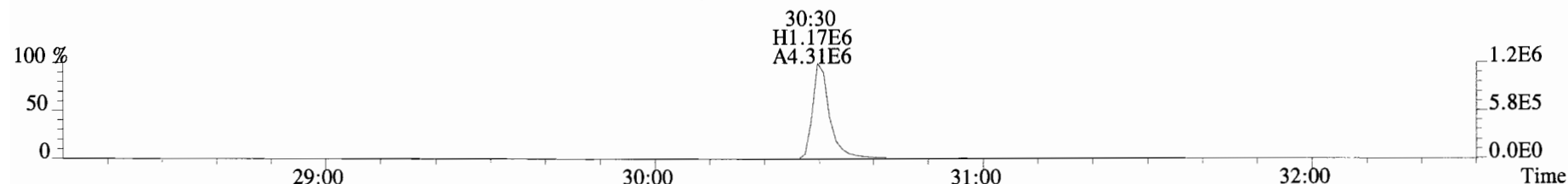
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



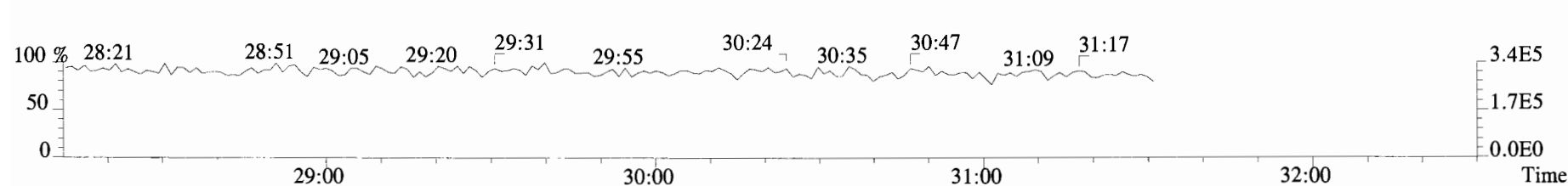
365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



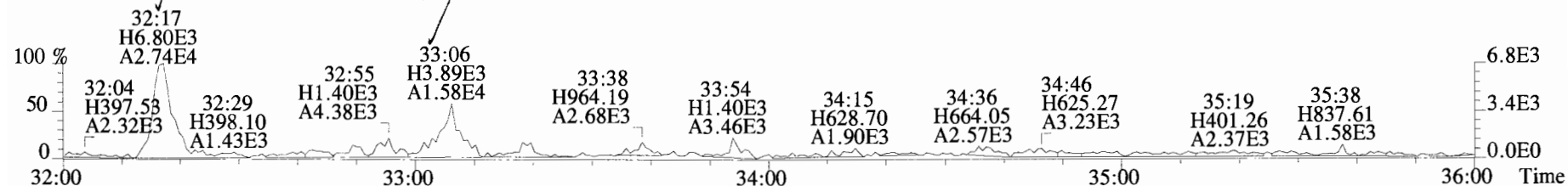
367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



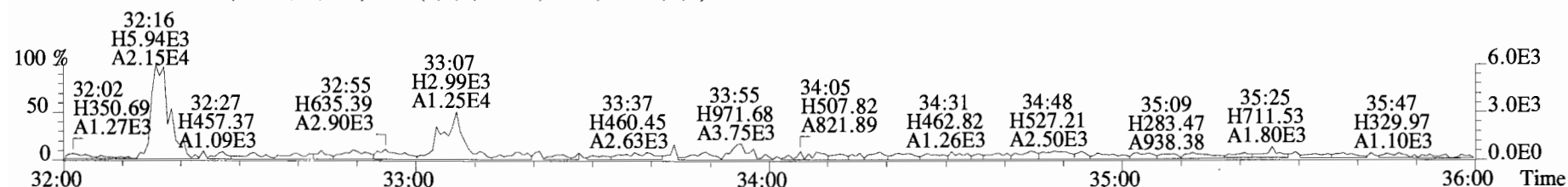
366.9792 S:4 F:2



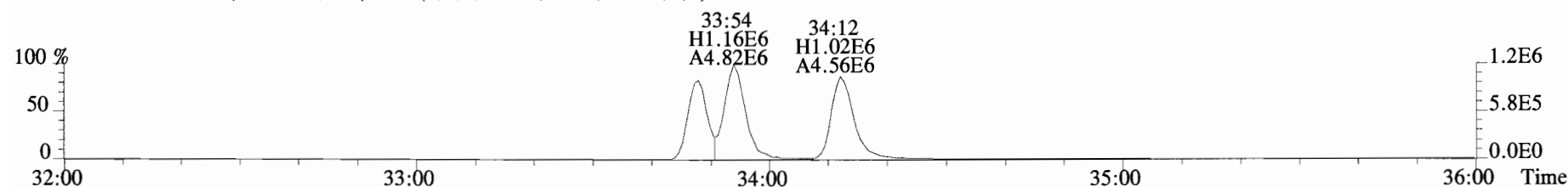
File:190627D2 #1-399 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
 389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



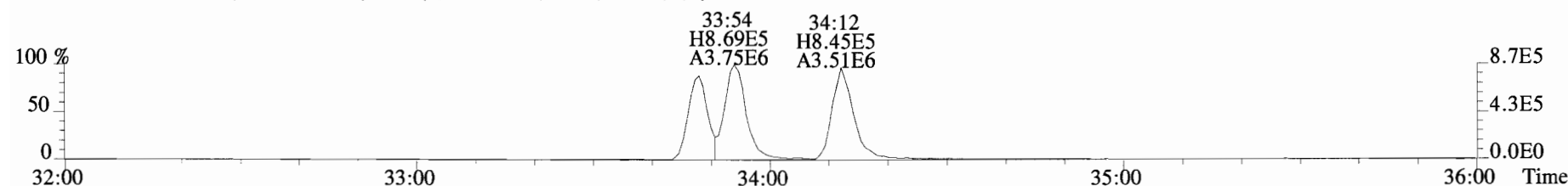
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



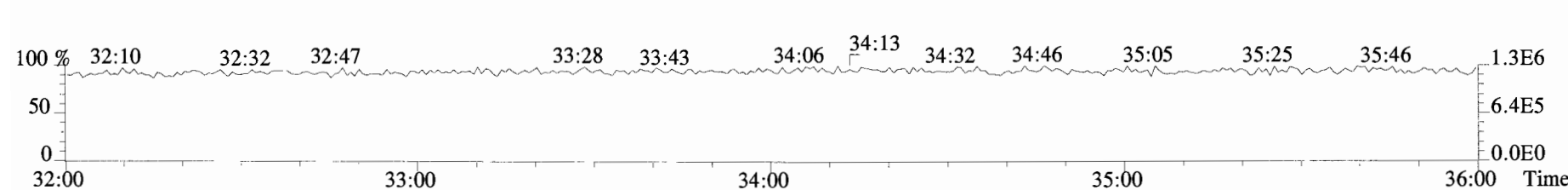
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



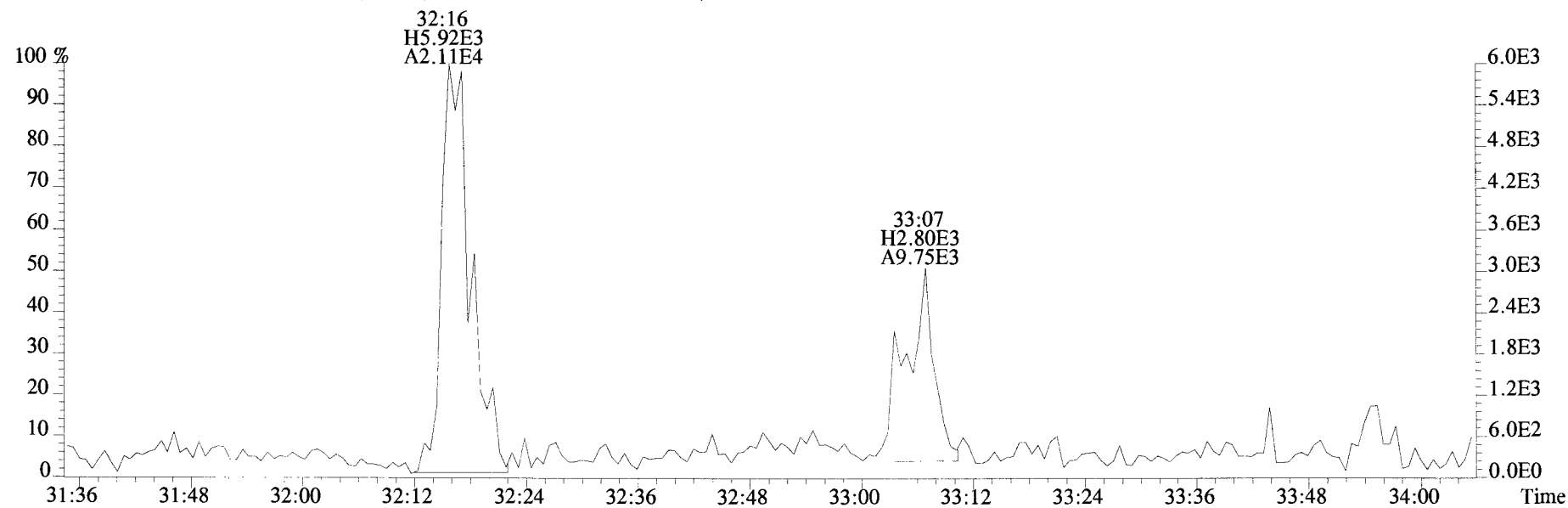
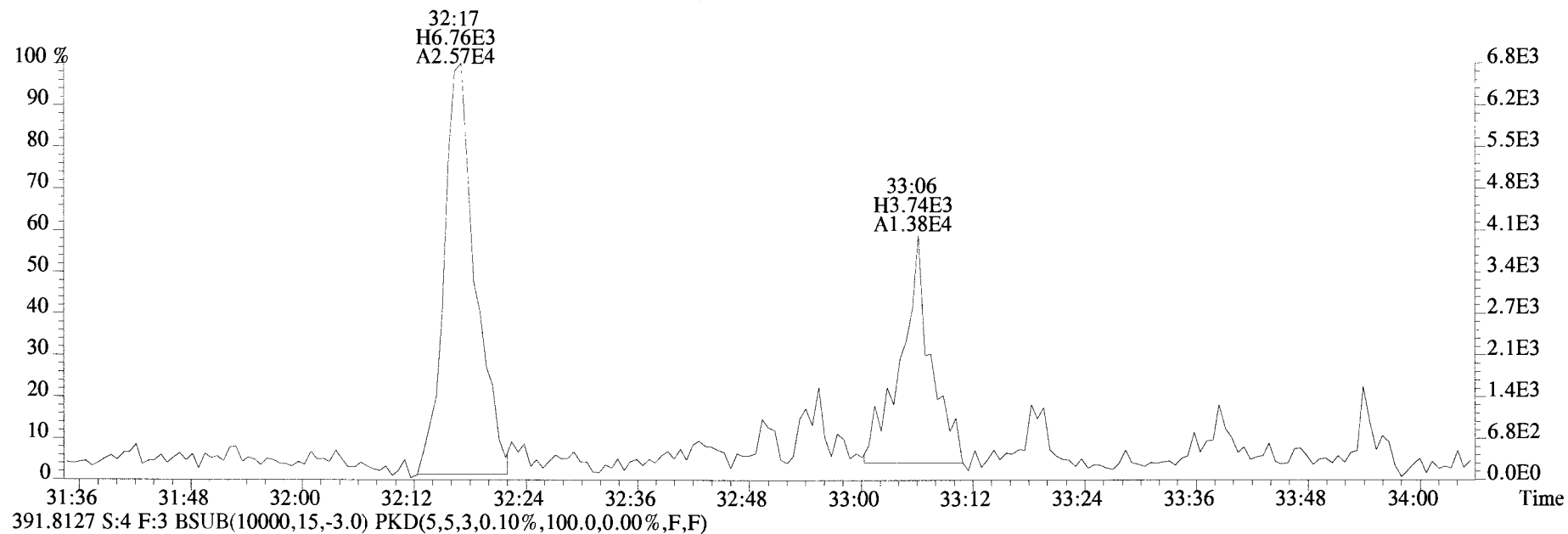
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



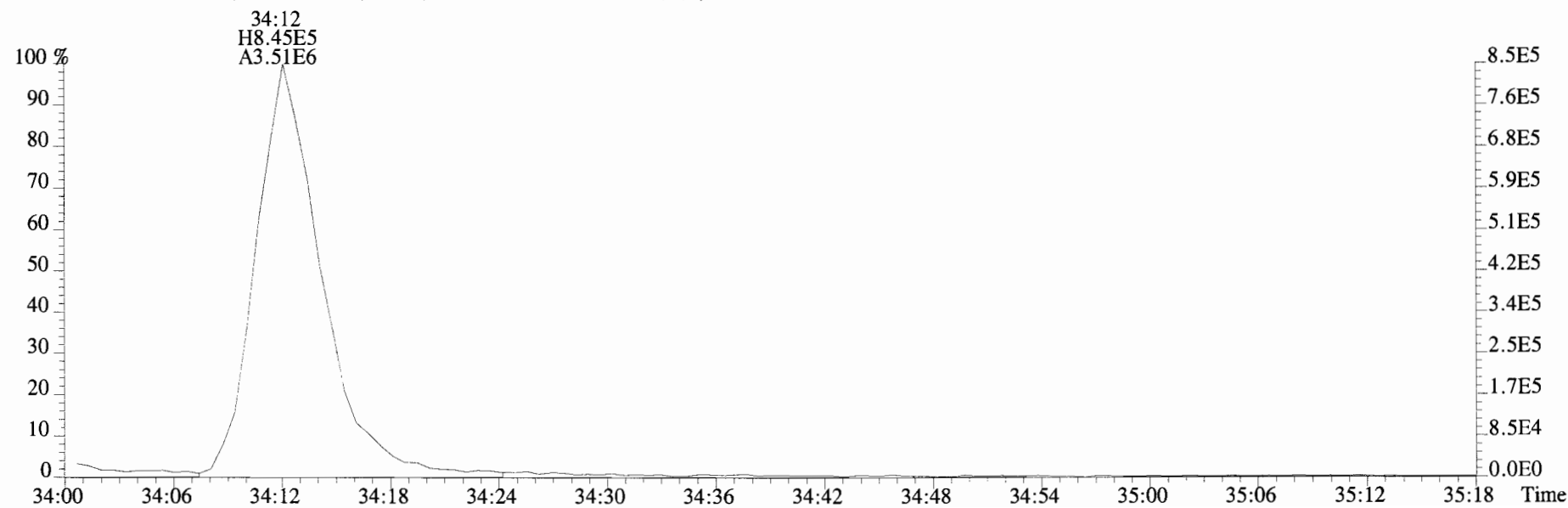
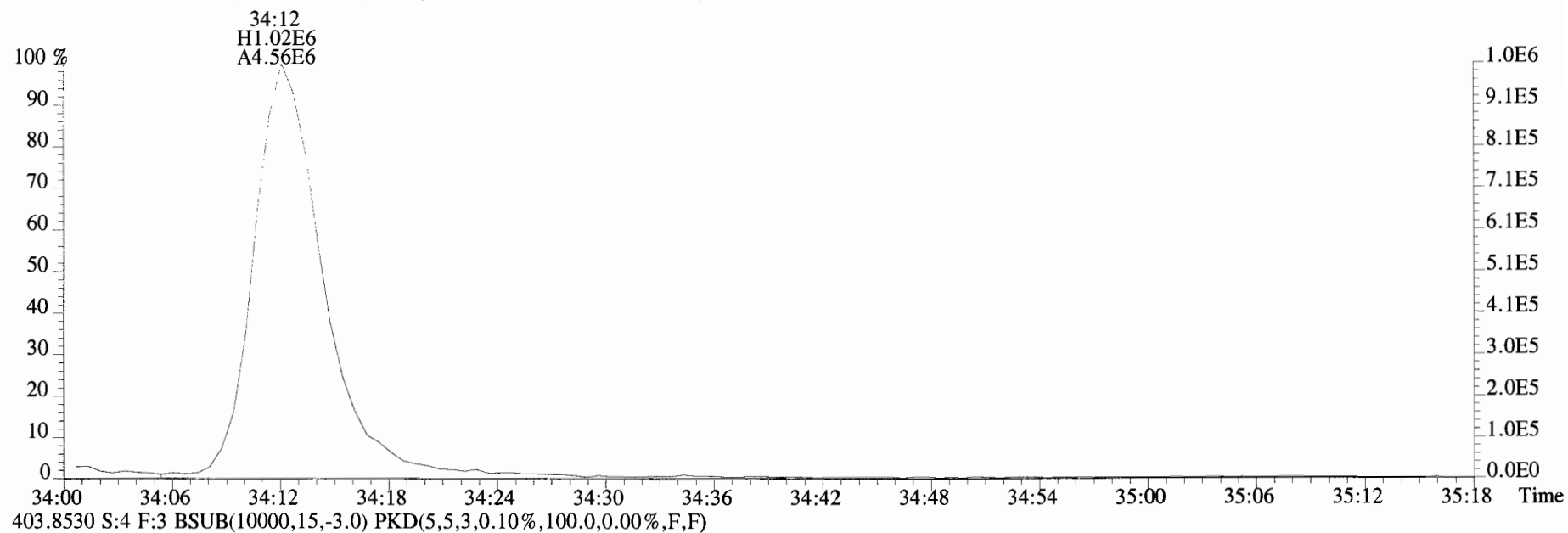
392.9760 S:4 F:3



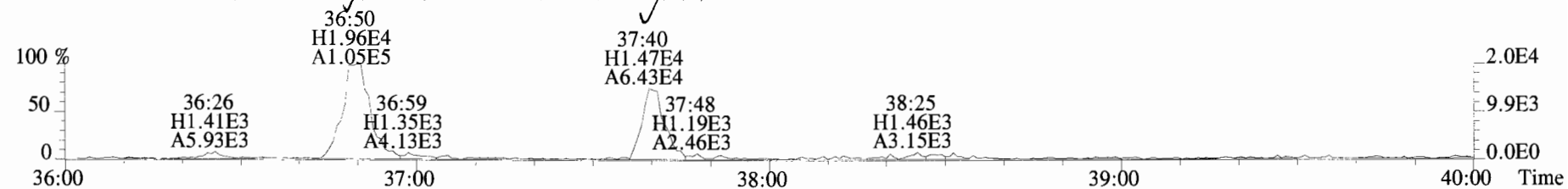
File:190627D2 #1-399 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



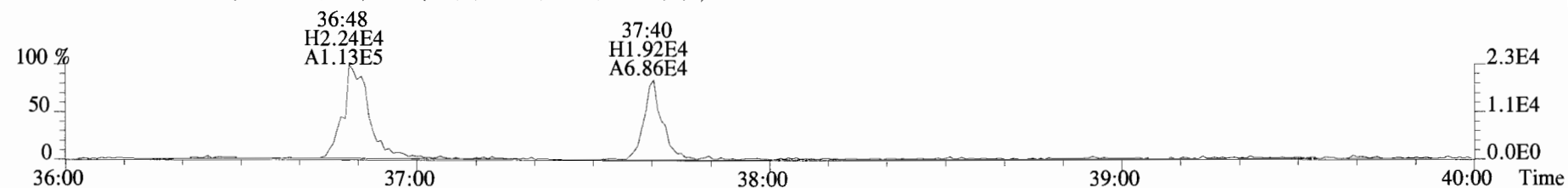
File:190627D2 #1-399 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
401.8559 S:4 F:3 BSUB(T0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



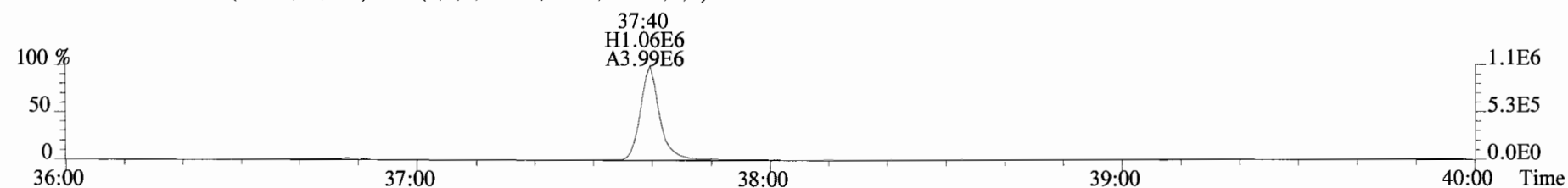
File:190627D2 #1-355 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



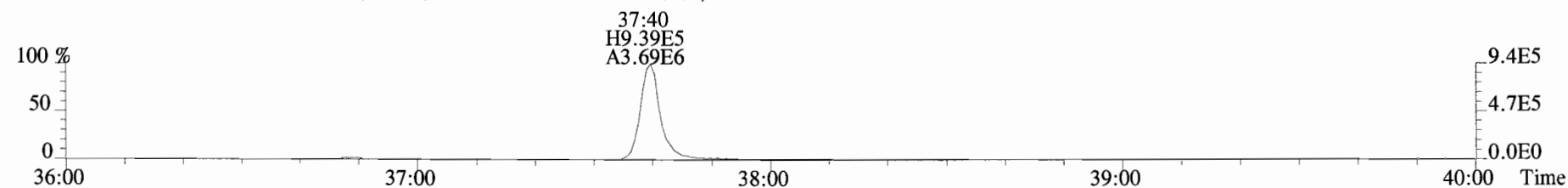
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



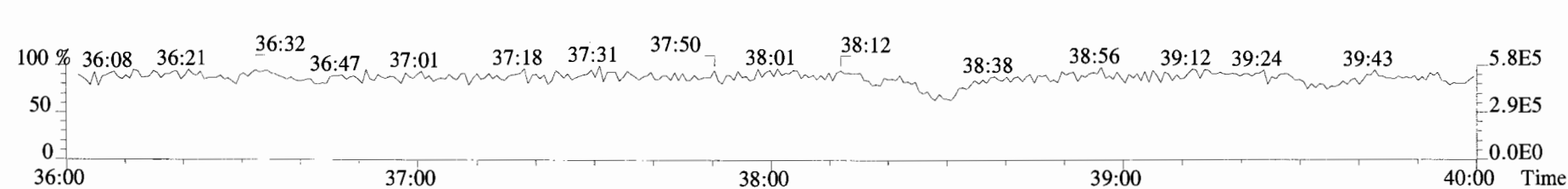
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



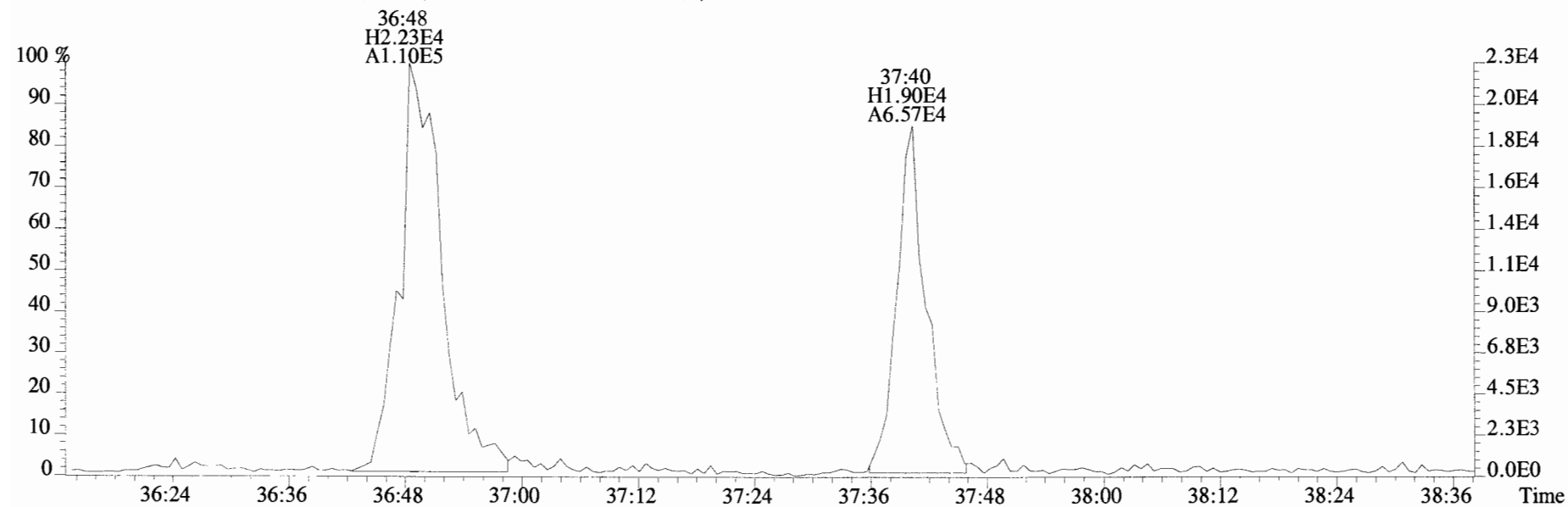
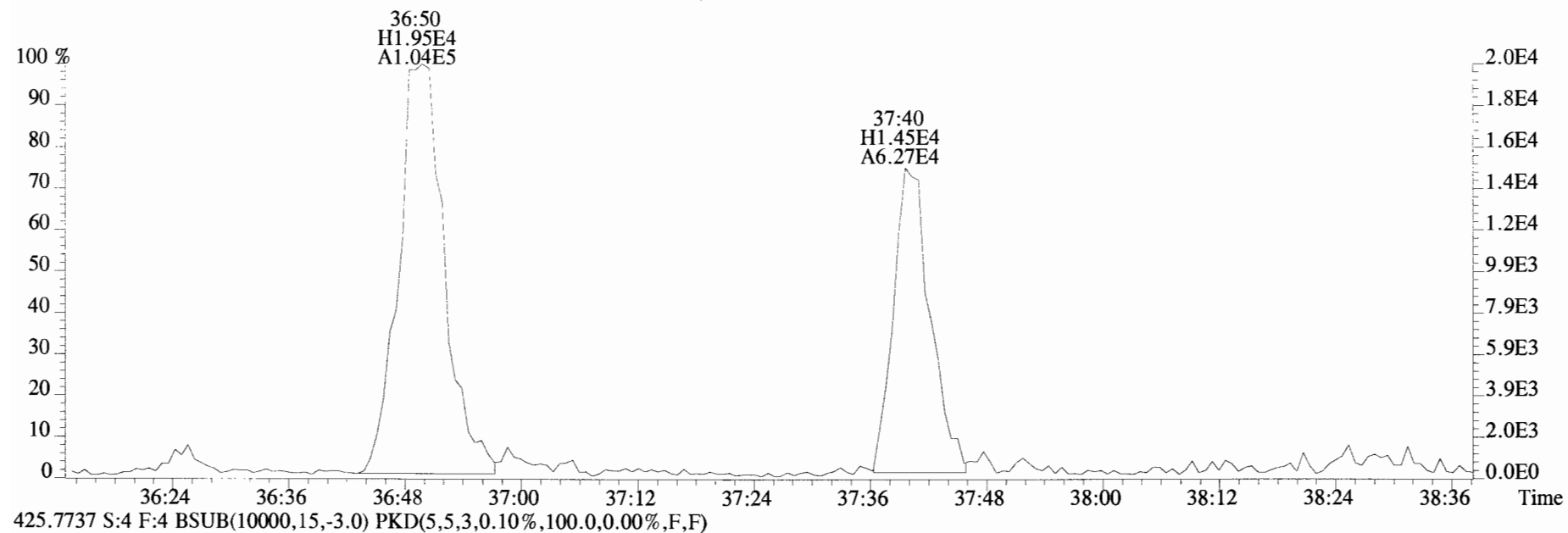
437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



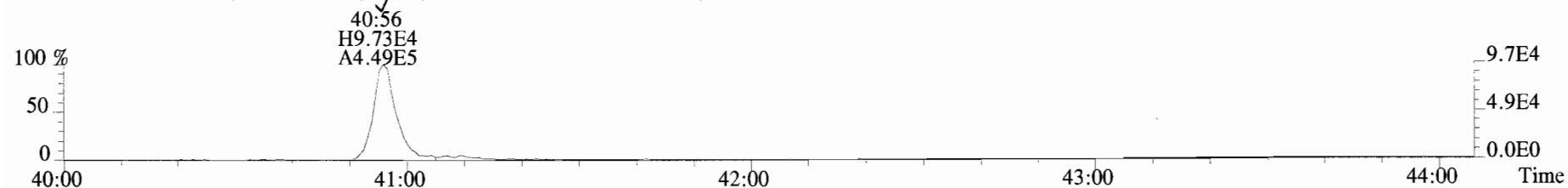
454.9728 S:4 F:4



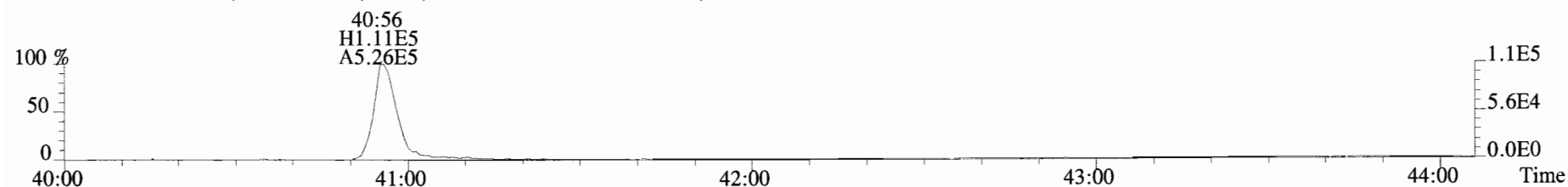
File:190627D2 #1-355 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



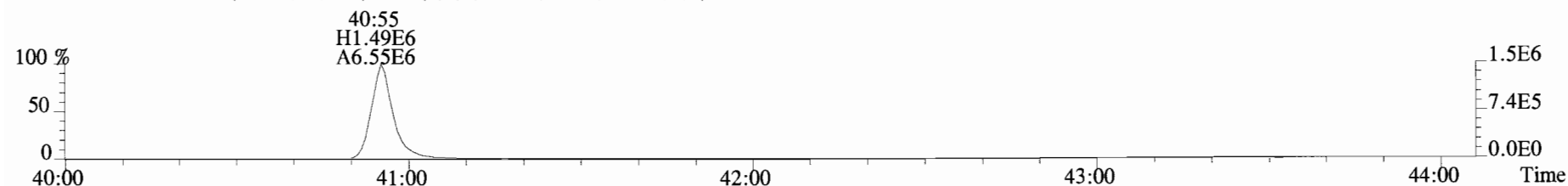
File:190627D2 #1-432 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



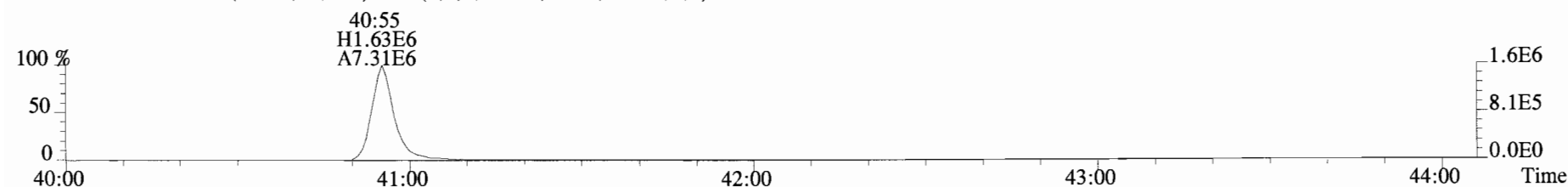
459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



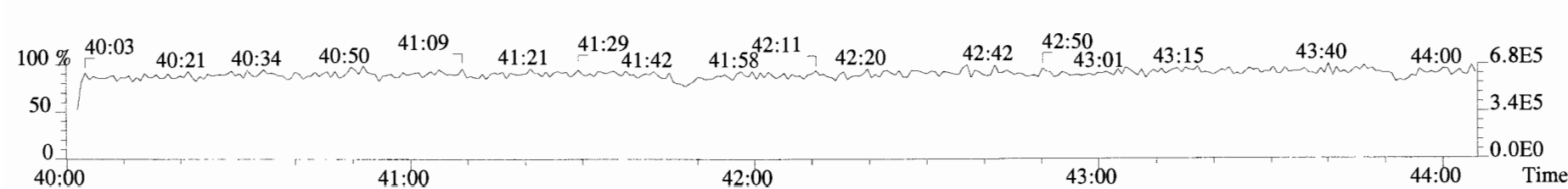
469.7780 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



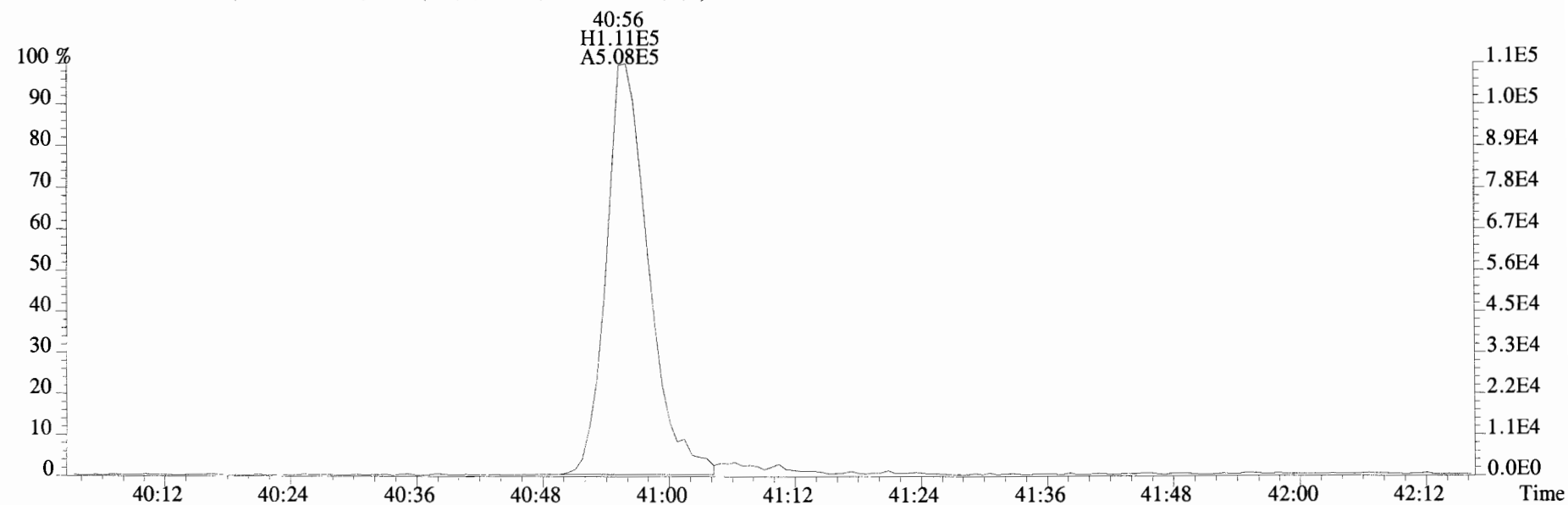
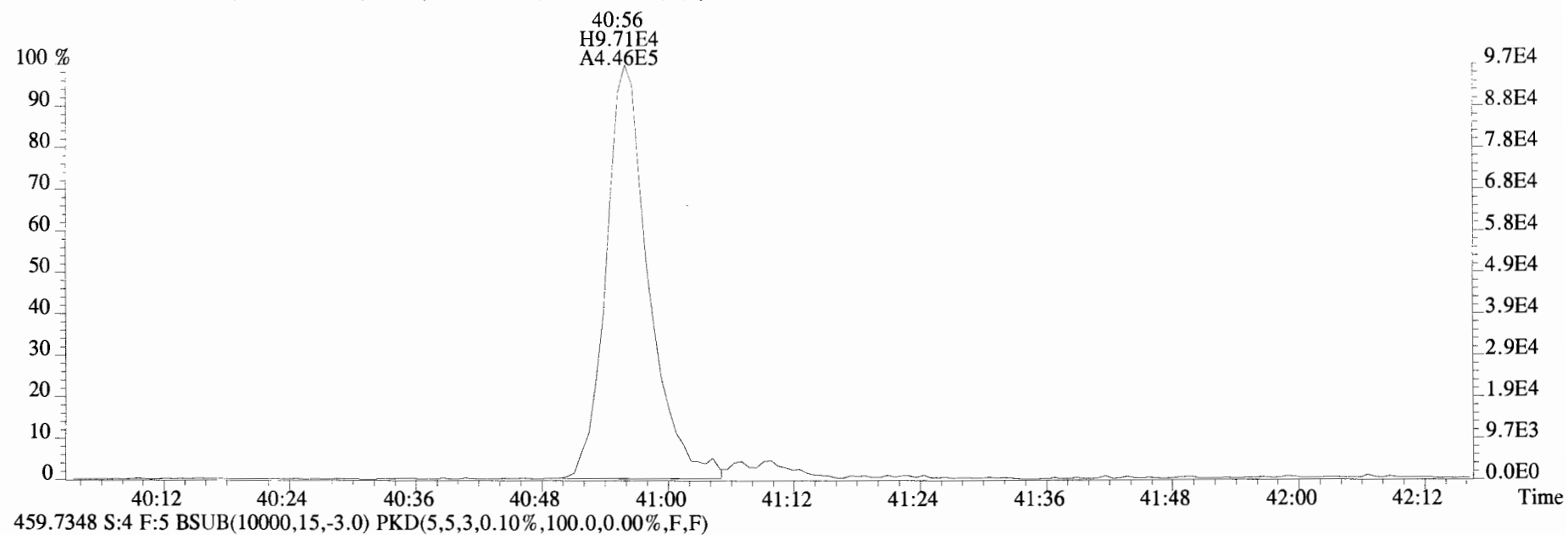
471.7750 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



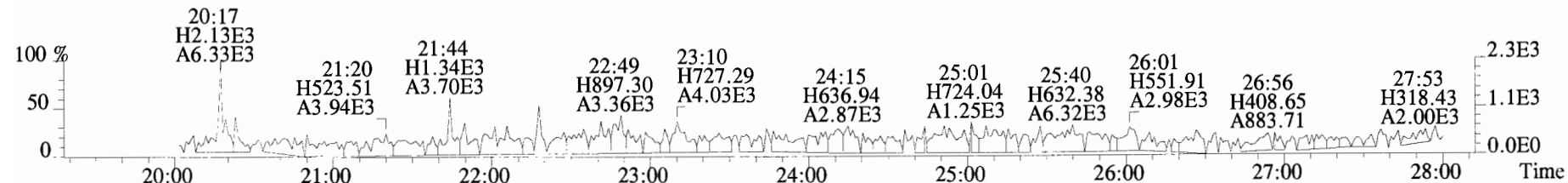
454.9728 S:4 F:5



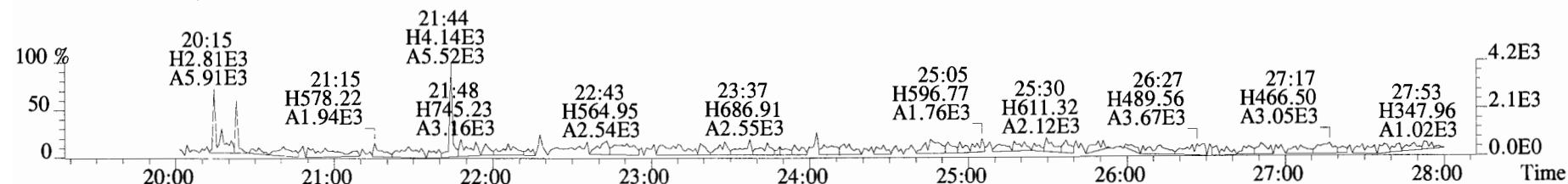
File:190627D2 #1-432 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



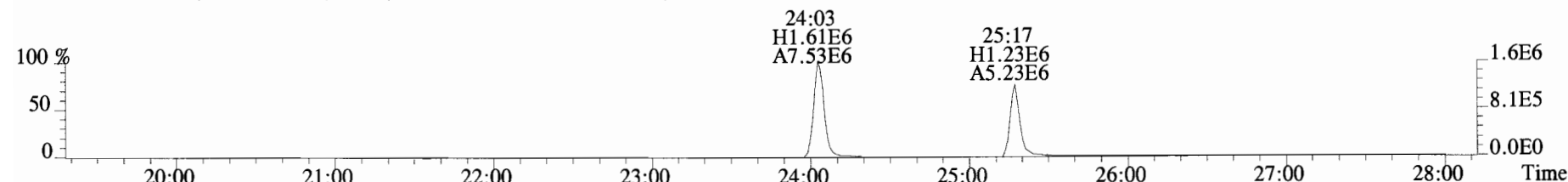
File:190627D2 #1-513 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
 303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



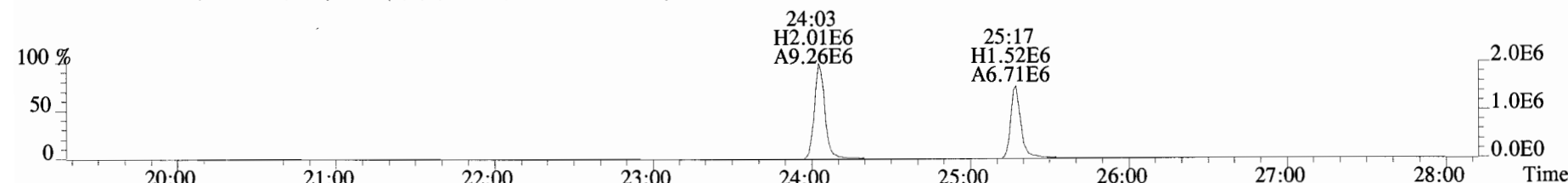
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



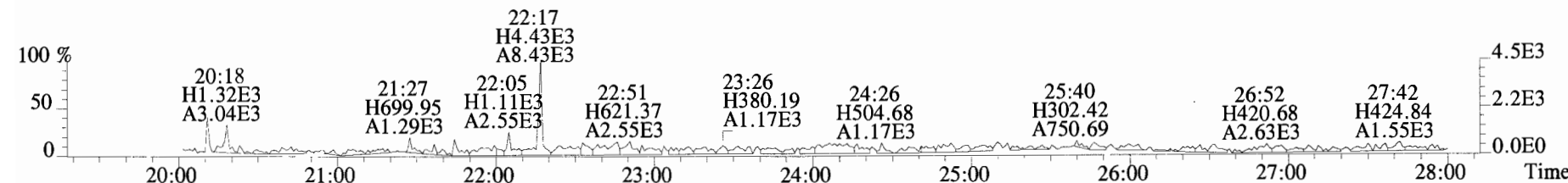
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



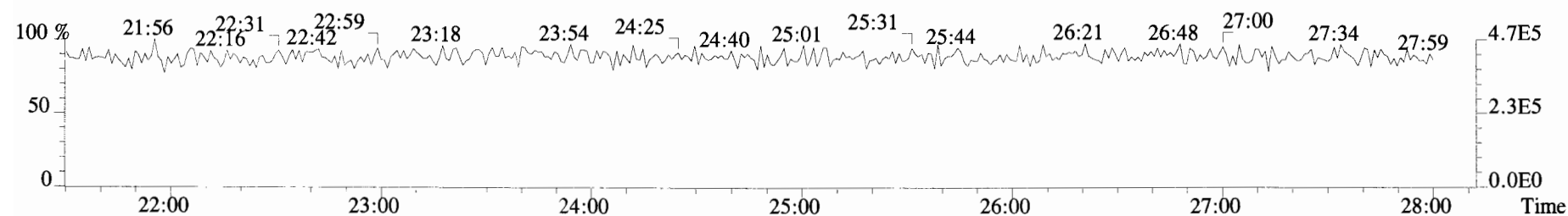
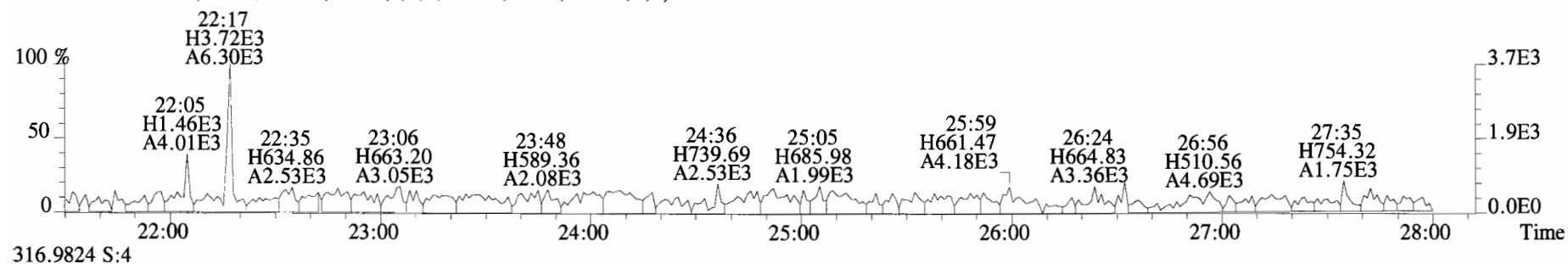
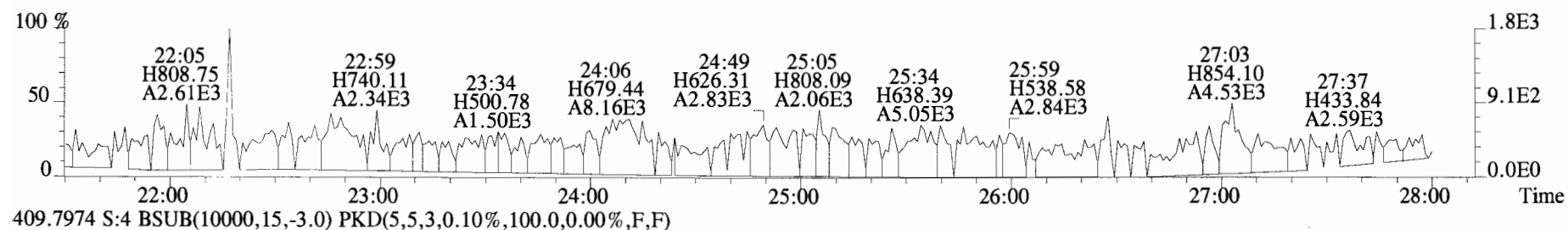
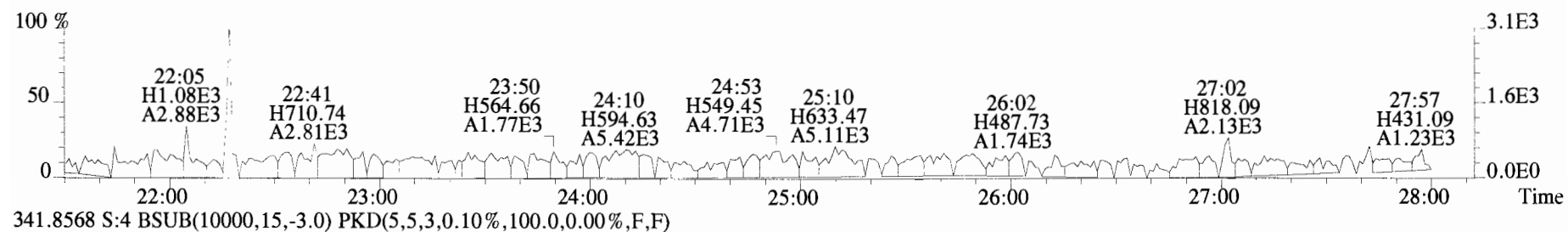
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



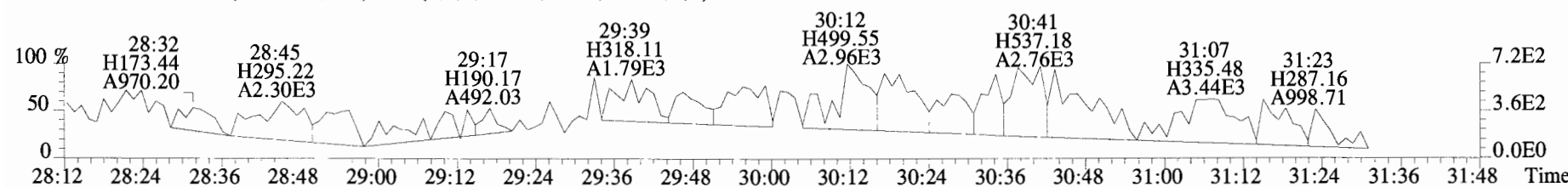
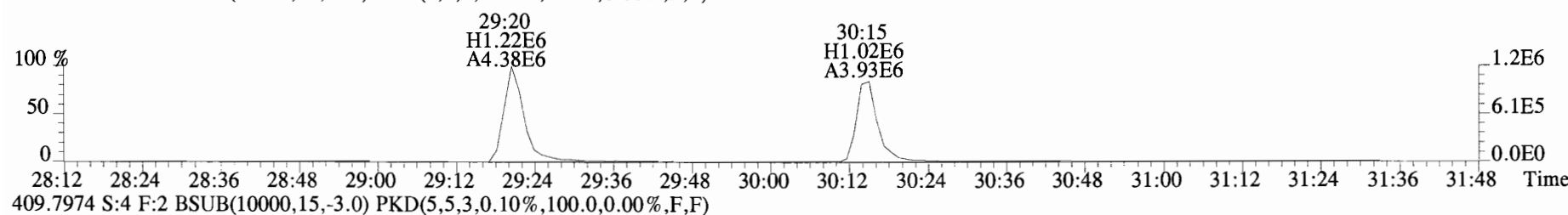
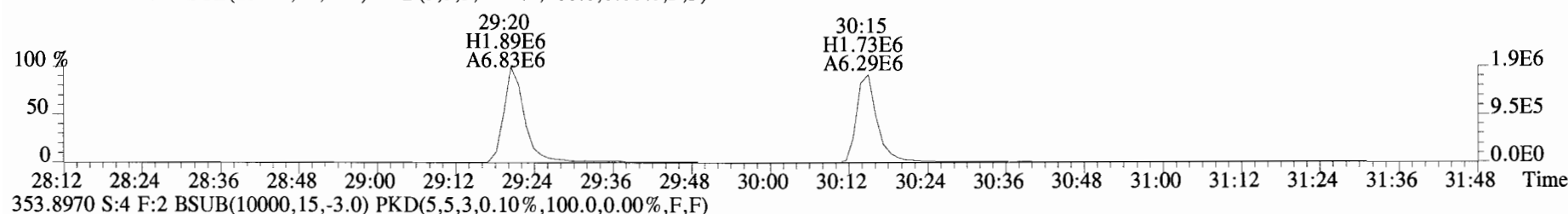
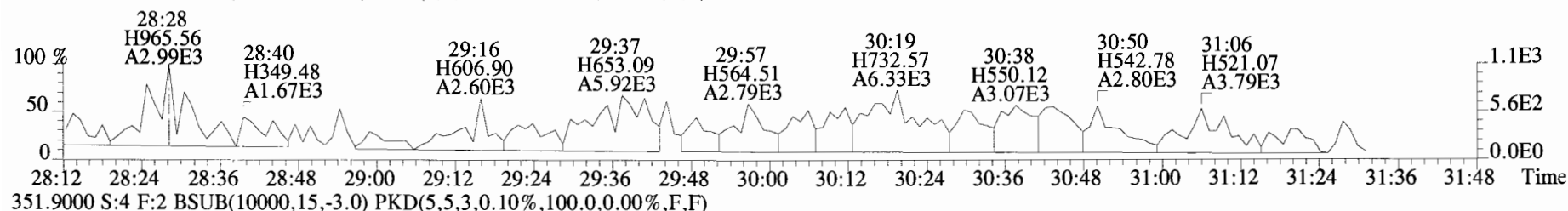
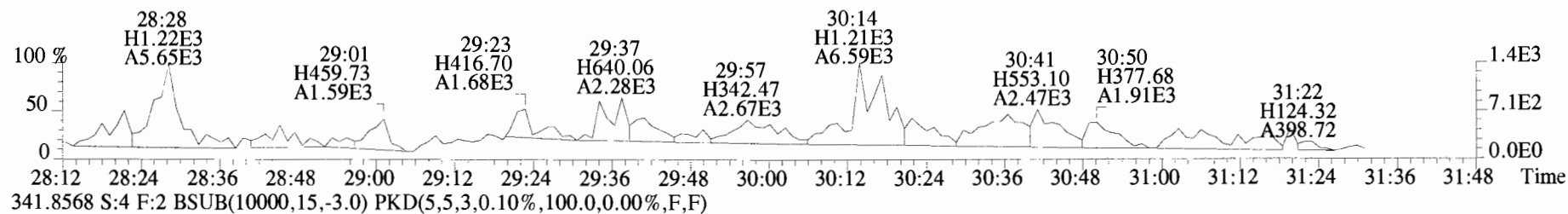
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



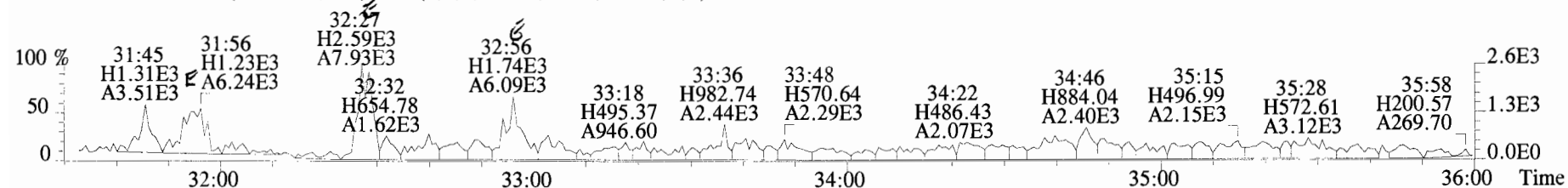
File:190627D2 #1-513 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



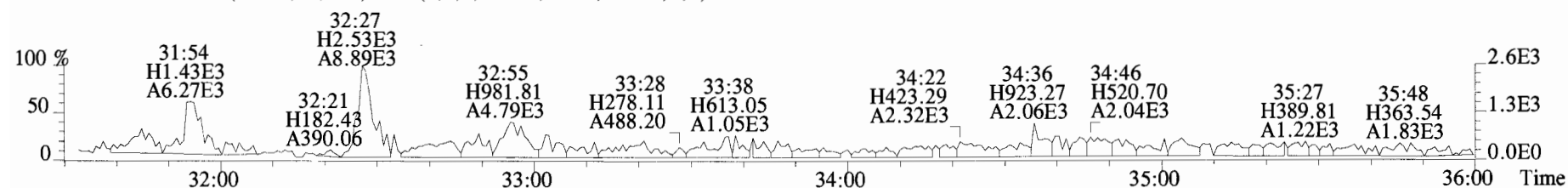
File:190627D2 #1-185 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
 339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



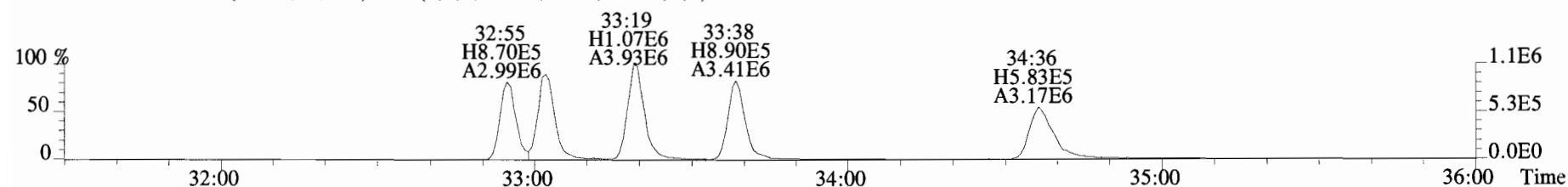
File:190627D2 #1-399 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



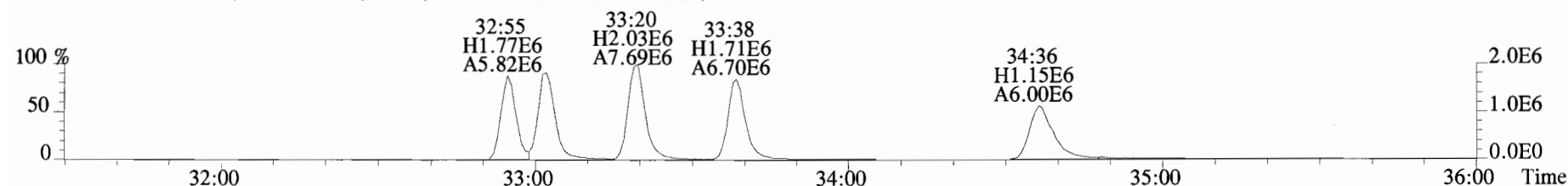
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



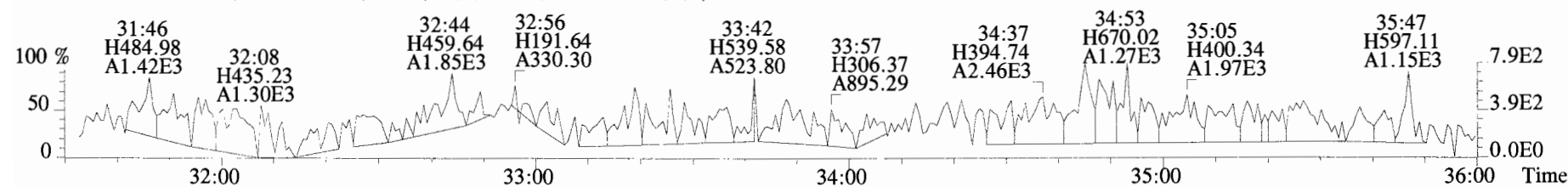
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



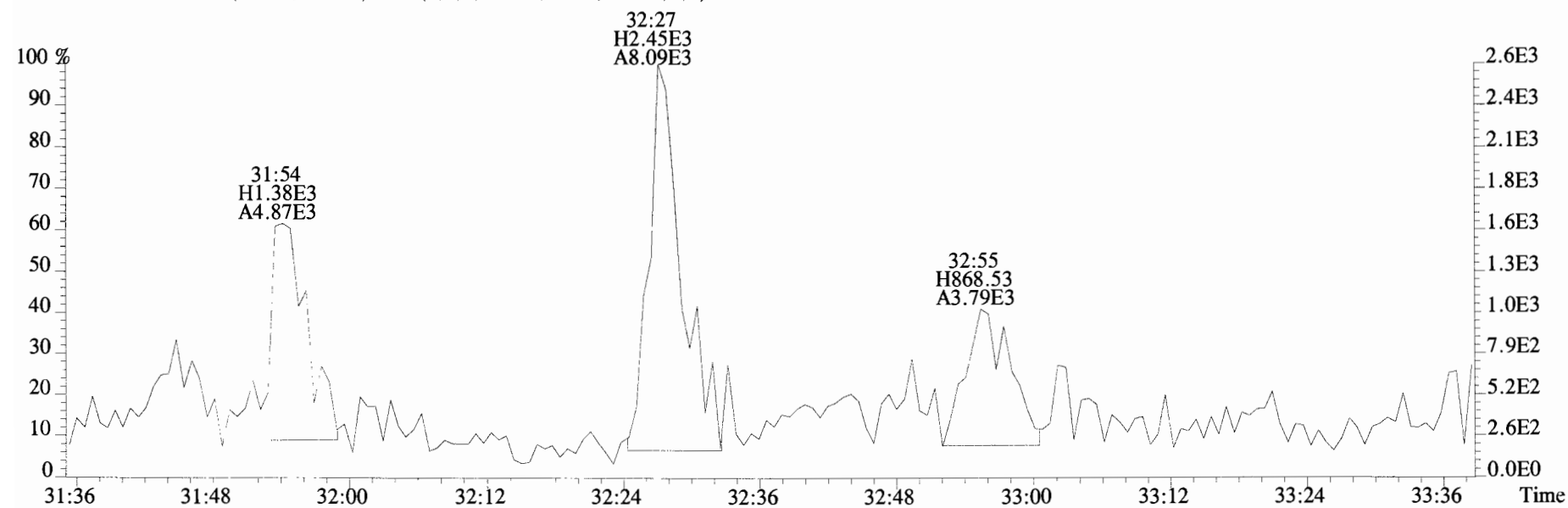
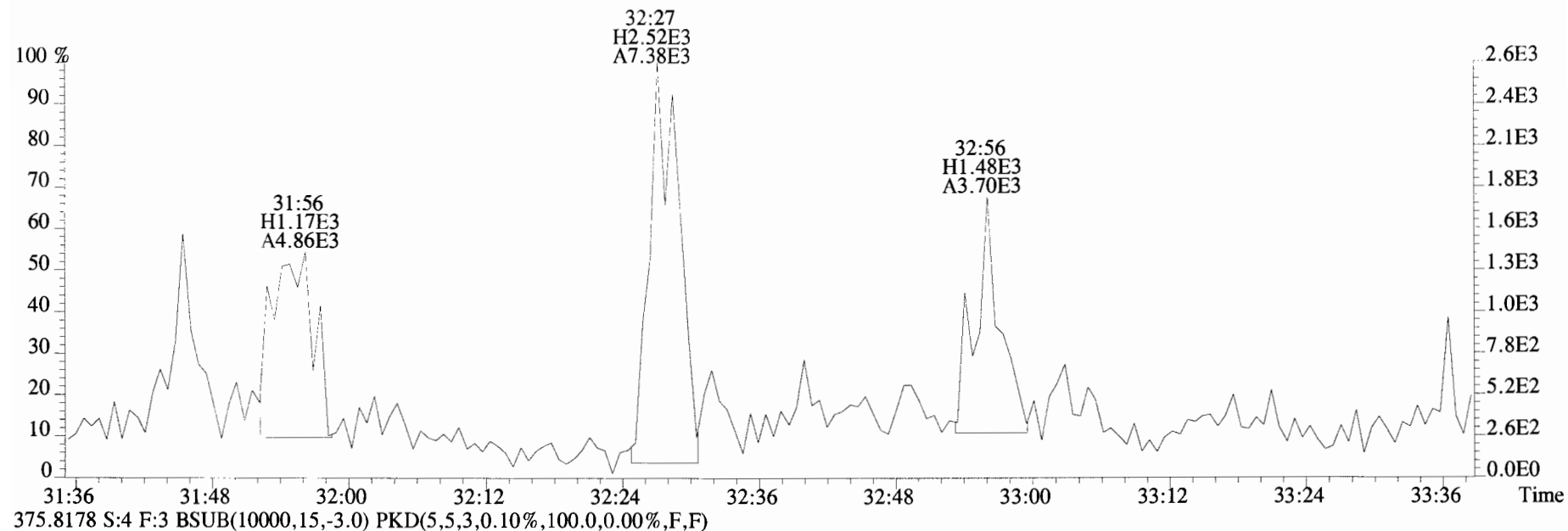
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



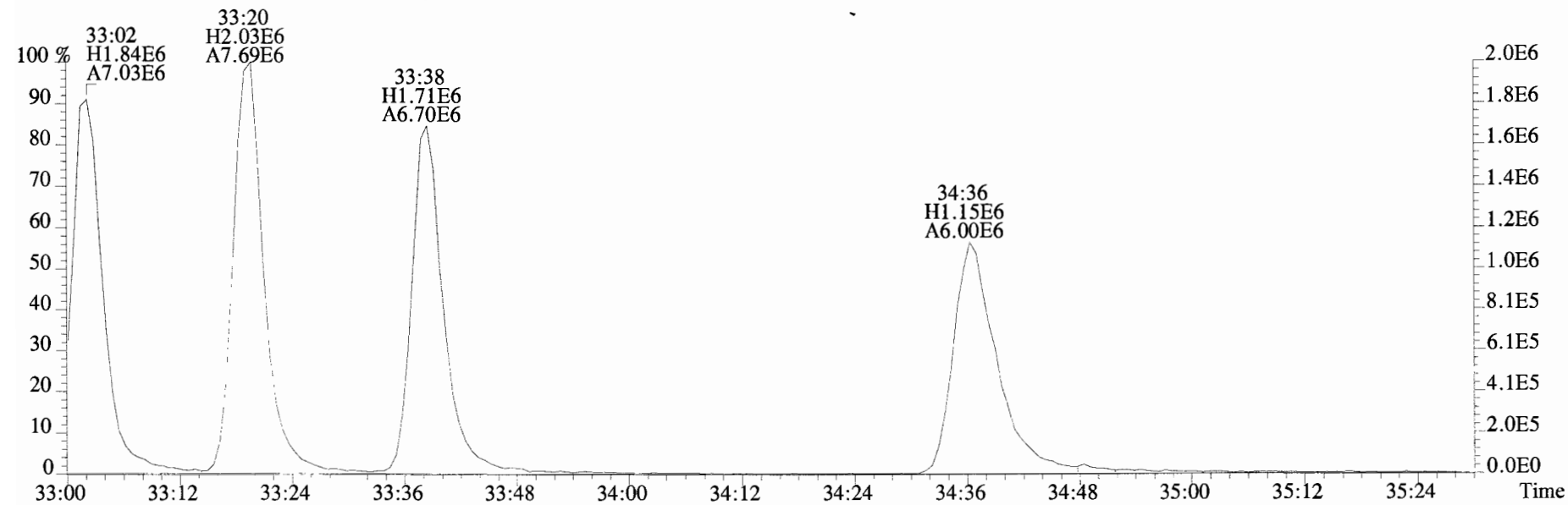
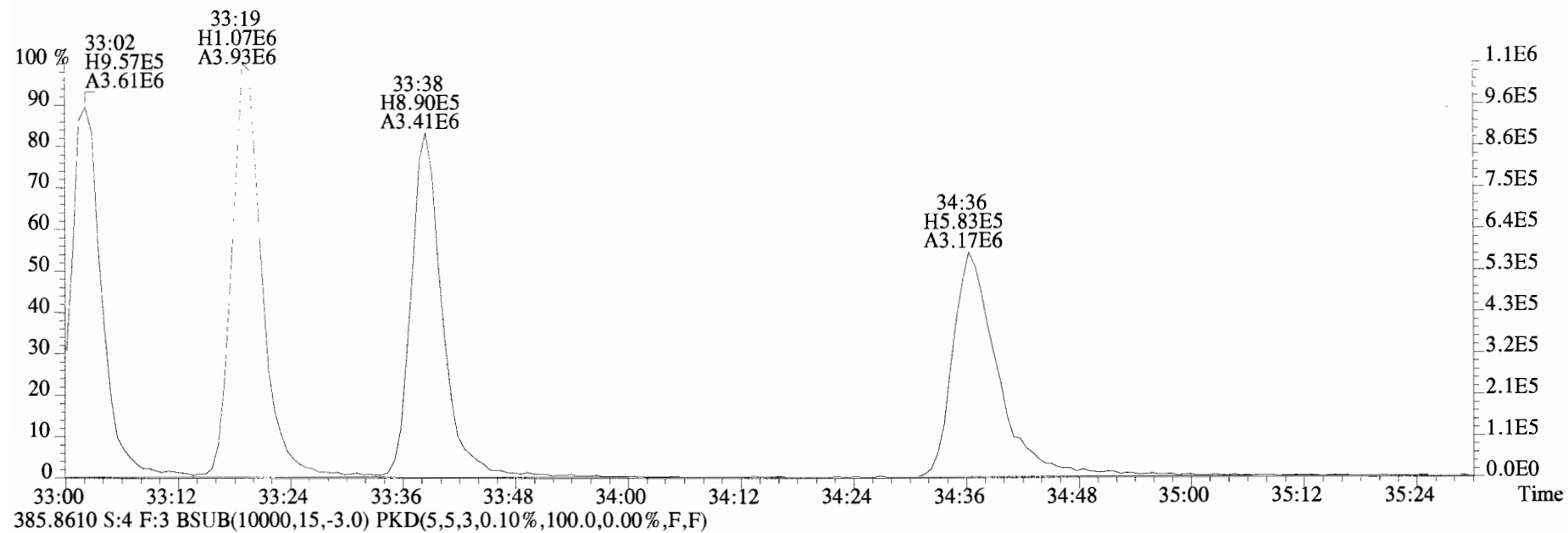
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



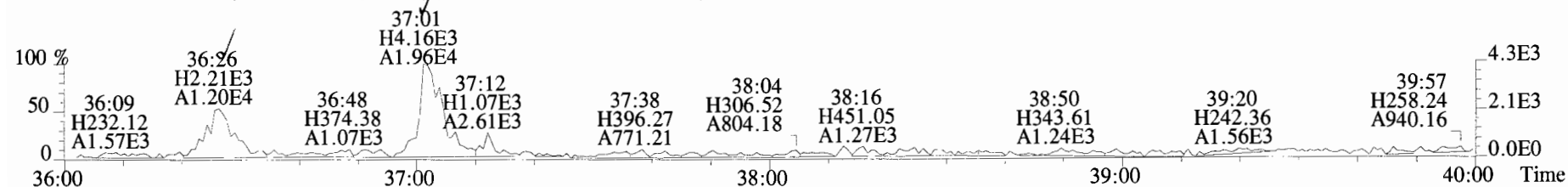
File:190627D2 #1-399 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



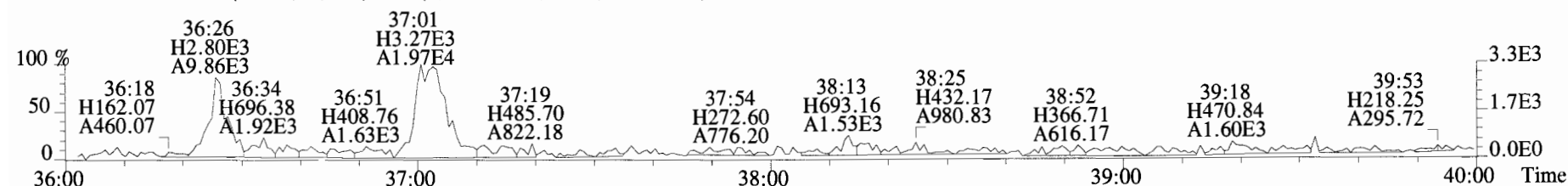
File:190627D2 #1-399 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



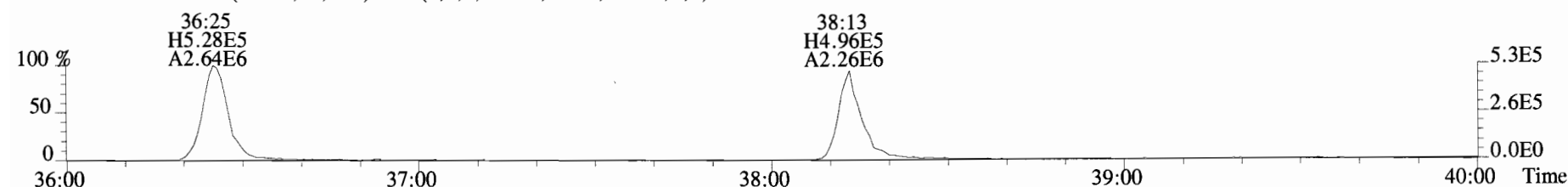
File:190627D2 #1-355 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
 407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



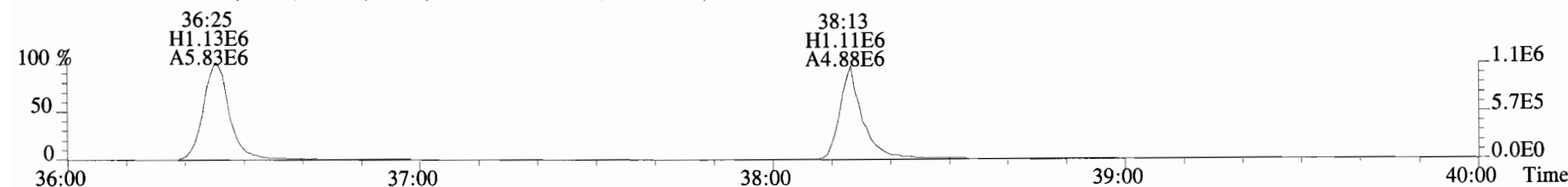
409.7788 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



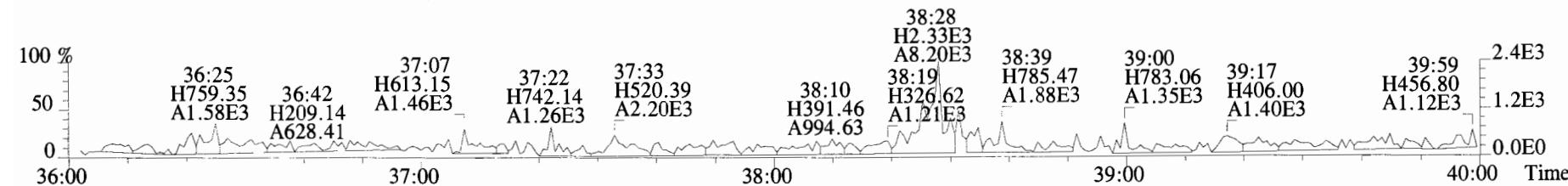
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



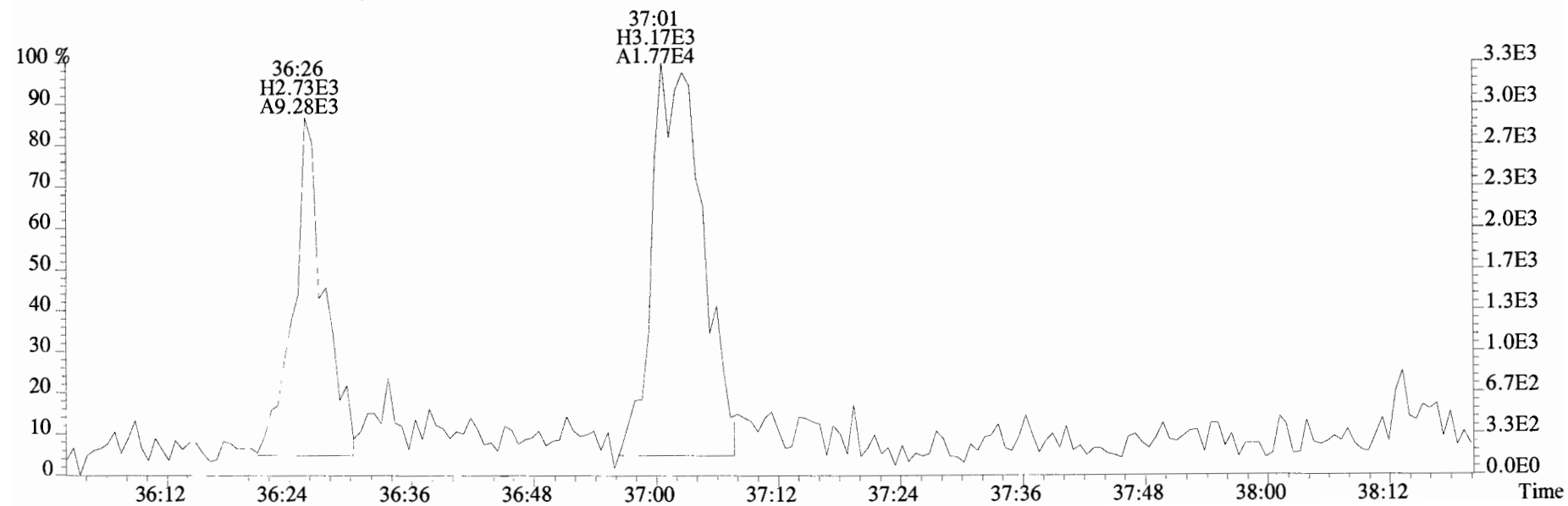
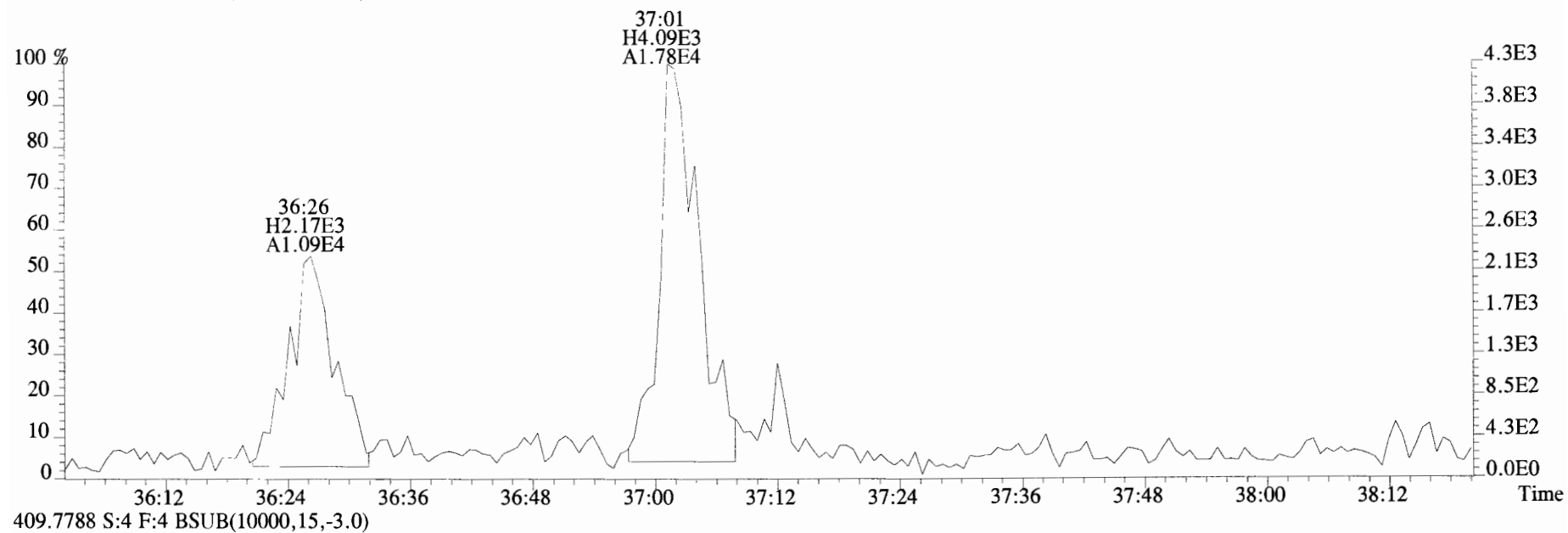
419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



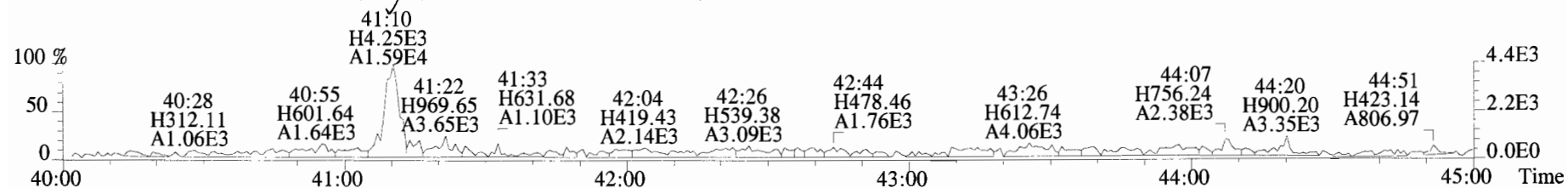
479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



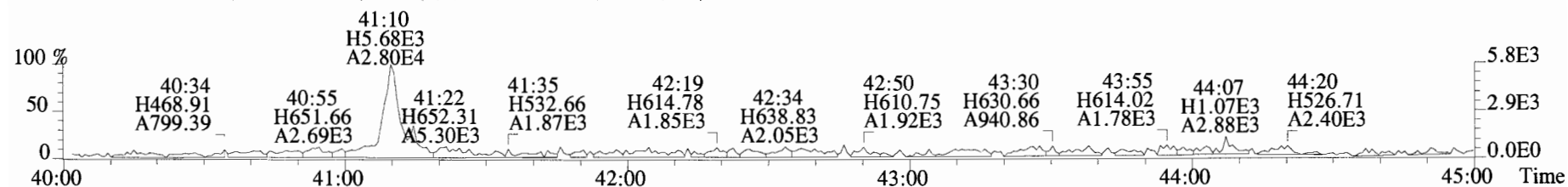
File:190627D2 #1-355 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
407.7818 S:4 F:4 BSUB(10000,15,-3.0)



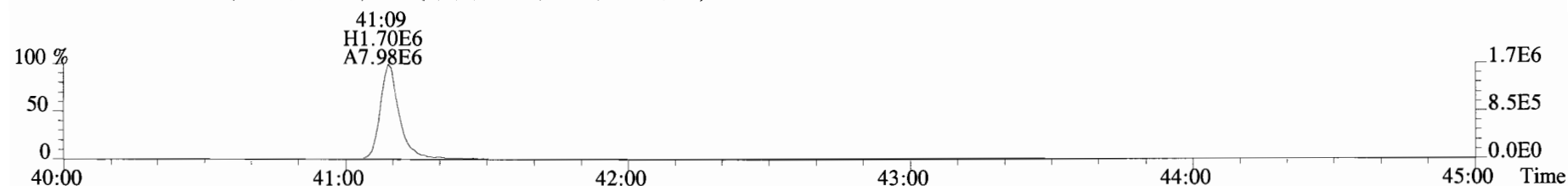
File:190627D2 #1-432 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
 441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



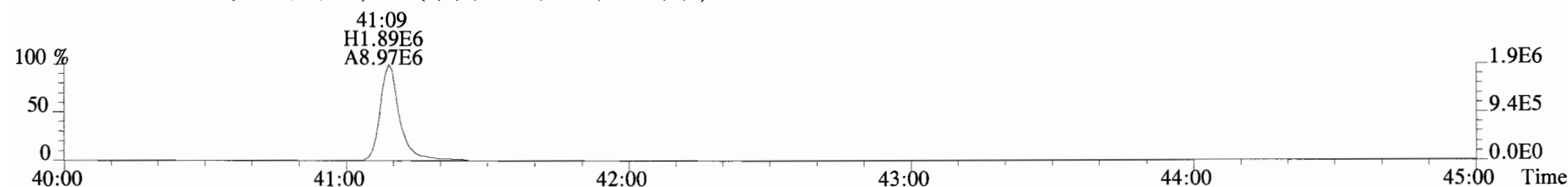
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



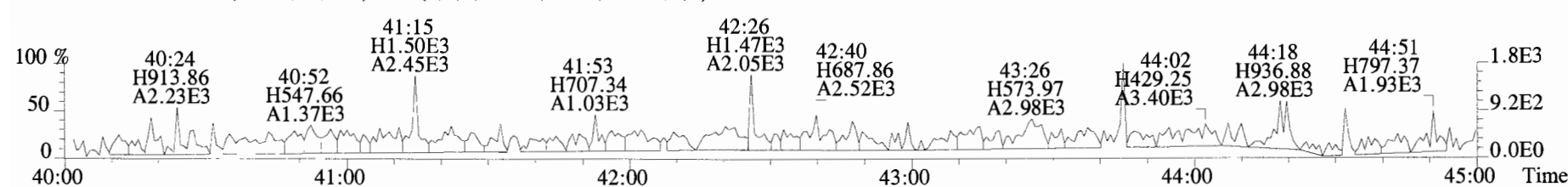
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



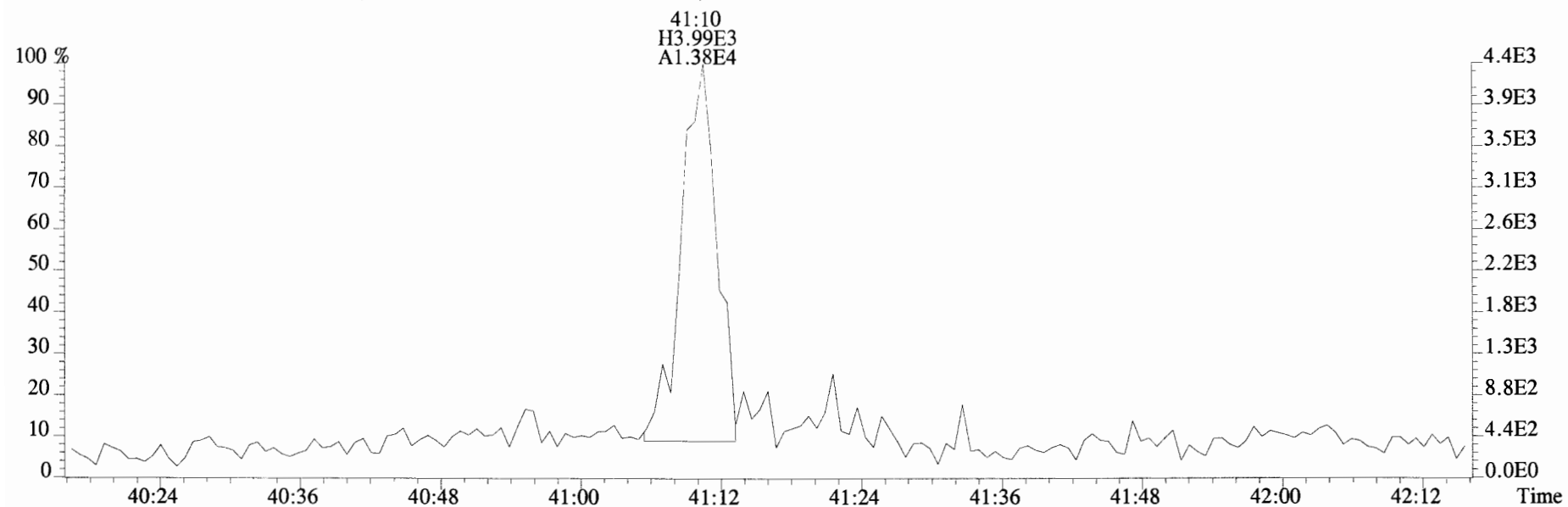
455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



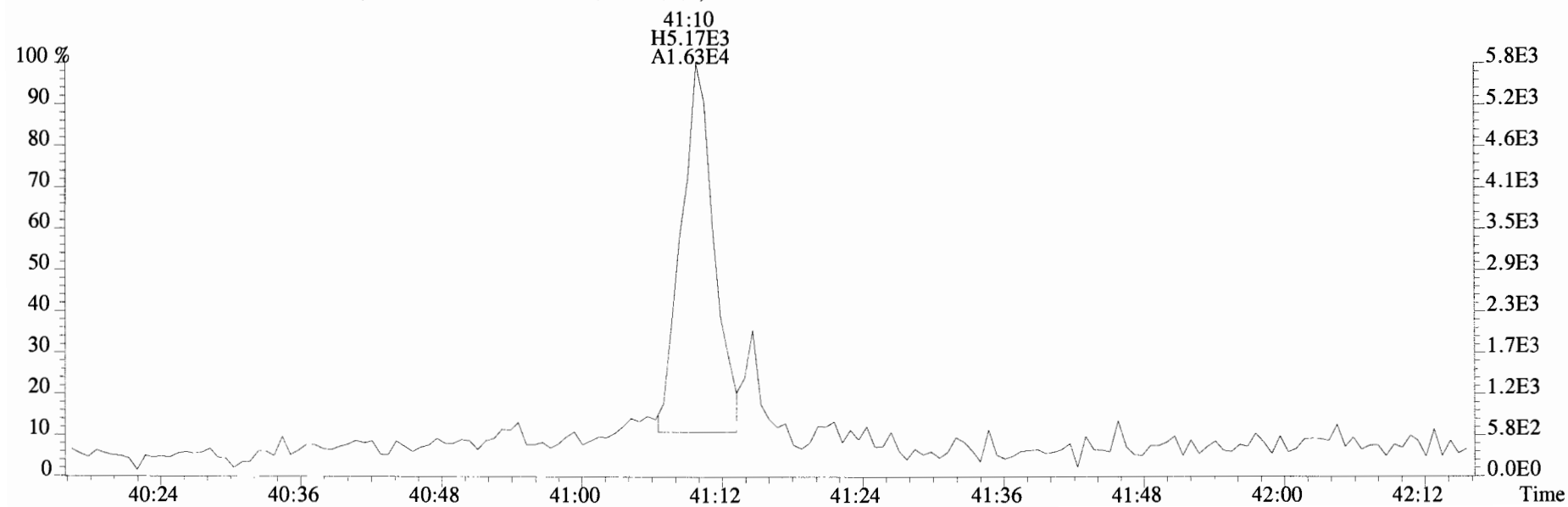
513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190627D2 #1-432 Acq:28-JUN-2019 07:30:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:1901246-11 FD-201905211730 7.2 Exp:OCDD_DB5
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC19-1905217 Filename: 190627D2 S:5 Acq:28-JUN-19 08:18:01
 Lab ID: 1901246-12 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.022

ConCal: ST190627D2-1
 EndCAL: NA

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Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	* n	0.90	NotF _η	*		192	2.5	0.152	Total Tetra-Dioxins	*	*		192	0.152
1,2,3,7,8-PeCDD	*	* n	0.87	NotF _η	*		302	2.5	0.273	Total Penta-Dioxins	*	*		302	0.273
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF _η	*		265	2.5	0.295	Total Hexa-Dioxins	1.53	1.53		*	*
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF _η	*		265	2.5	0.298	Total Hepta-Dioxins	4.90	4.90		*	*
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF _η	*		265	2.5	0.317	Total Tetra-Furans	*	*		203	0.123
1,2,3,4,6,7,8-HpCDD	4.11e+04	0.94 y	0.99	37:40	2.0308		*	2.5	*	Total Penta-Furans	0.0000	0.0000		226	0.189
OCDD	1.81e+05	0.91 y	0.99	40:56	10.641		*	2.5	*	Total Hexa-Furans	*	*		252	0.141
										Total Hepta-Furans	0.341	0.341		*	*
2,3,7,8-TCDF	*	* n	0.94	NotF _η	*		203	2.5	0.123						
1,2,3,7,8-PeCDF	*	* n	0.92	NotF _η	*		226	2.5	0.194						
2,3,4,7,8-PeCDF	*	* n	0.96	NotF _η	*		226	2.5	0.185						
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF _η	*		252	2.5	0.119						
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF _η	*		252	2.5	0.123						
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF _η	*		252	2.5	0.129						
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF _η	*		252	2.5	0.201						
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF _η	*		139	2.5	0.103						
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF _η	*		139	2.5	0.110						
OCDF	*	* n	0.94	NotF _η	*		197	2.5	0.236						
										Rec	Qual				
IS	13C-2,3,7,8-TCDD	9.79e+06	0.77 y	1.11	26:02	339.49				85.2					
IS	13C-1,2,3,7,8-PeCDD	7.52e+06	0.65 y	0.98	30:31	295.57				74.2					
IS	13C-1,2,3,4,7,8-HxCDD	6.84e+06	1.30 y	0.68	33:48	345.58				86.8					
IS	13C-1,2,3,6,7,8-HxCDD	8.76e+06	1.28 y	0.84	33:55	354.98				89.1					
IS	13C-1,2,3,7,8,9-HxCDD	8.54e+06	1.26 y	0.81	34:13	358.68				90.1					
IS	13C-1,2,3,4,6,7,8-HpCDD	8.15e+06	1.06 y	0.69	37:40	405.27				102					
IS	13C-OCDD	1.37e+07	0.92 y	0.62	40:56	749.92				94.2					
IS	13C-2,3,7,8-TCDF	1.38e+07	0.81 y	1.05	25:18	307.07				77.1					
IS	13C-1,2,3,7,8-PeCDF	1.19e+07	1.65 y	0.95	29:22	291.31				73.2					
IS	13C-2,3,4,7,8-PeCDF	1.16e+07	1.66 y	0.94	30:15	288.02				72.3					
IS	13C-1,2,3,4,7,8-HxCDF	8.99e+06	0.50 y	0.86	32:55	357.93				89.9					
IS	13C-1,2,3,6,7,8-HxCDF	1.09e+07	0.51 y	1.02	33:03	363.74				91.3					
IS	13C-2,3,4,6,7,8-HxCDF	1.03e+07	0.51 y	0.95	33:39	367.60				92.3					
IS	13C-1,2,3,7,8,9-HxCDF	9.58e+06	0.51 y	0.87	34:38	376.63				94.6					
IS	13C-1,2,3,4,6,7,8-HpCDF	9.18e+06	0.44 y	0.81	36:26	387.30				97.3					
IS	13C-1,2,3,4,7,8,9-HpCDF	7.39e+06	0.47 y	0.63	38:14	398.87				100					
IS	13C-OCDF	1.66e+07	0.90 y	0.78	41:10	724.18				90.9					
C/Up	37Cl-2,3,7,8-TCDD	3.75e+06		1.22	26:04	118.29				74.3	Integrations				
											Reviewed				
											by				
RS/RT	13C-1,2,3,4-TCDD	1.04e+07	0.80 y	1.00	25:28	398.23					Analyst: <u>DB</u>				
RS	13C-1,2,3,4-TCDF	1.71e+07	0.80 y	1.00	24:03	398.23					Analyst: <u>C1</u>				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.17e+07	0.51 y	1.00	33:20	398.23					Analyst: <u>akd19</u>				

Integrations
 by DB
 Analyst: DB
 Date: 8/5/19
 Reviewed
 by C1
 Analyst: C1
 Date: 08/08/19

Totals class: HxCDD EMPC

Entry #: 23

Run: 10

File: 190627D2

S: 5 I: 1 F: 3

Acquired: 28-JUN-19 08:18:01

Processed: 28-JUN-19 14:14:10

Total Concentration: 1.5329

Unnamed Concentration: 1.533

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:17	9.003e+03	8.487e+03	1.06 y	1.749e+04	0.88691
33:05	7.310e+03	5.429e+03	1.35 y	1.274e+04	0.64601

Totals class: HpCDD EMPC

Entry #: 25

Run: 10

File: 190627D2

S: 5 I: 1 F: 4

Acquired: 28-JUN-19 08:18:01

Processed: 28-JUN-19 14:14:10

Total Concentration: 4.8982

Unnamed Concentration: 2.867

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
36:50	2.746e+04	3.056e+04	0.90	y	5.801e+04	2.8673
37:40	1.992e+04	2.117e+04	0.94	y	4.109e+04	2.0308
						1,2,3,4,6,7,8-HpCDD

Totals class: HpCDF EMPC

Entry #: 35

Run: 10

File: 190627D2

S: 5 I: 1 F: 4

Acquired: 28-JUN-19 08:18:01

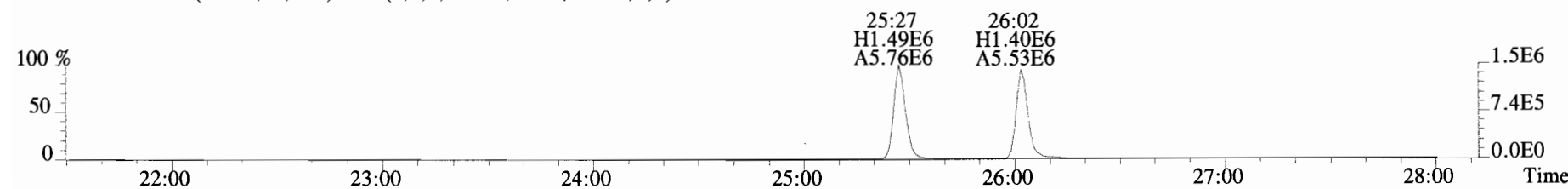
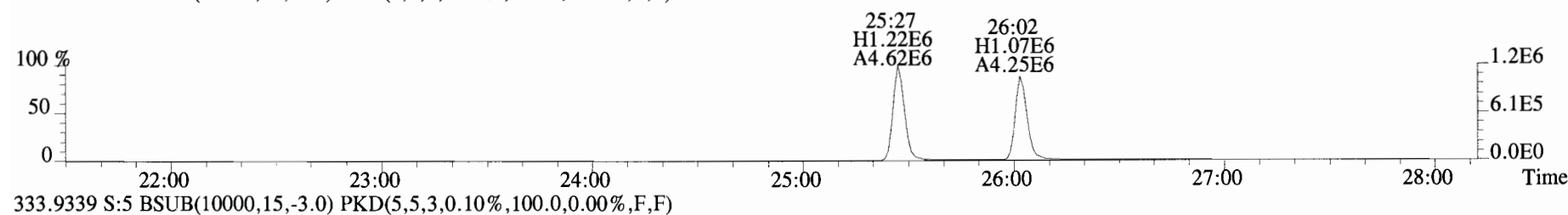
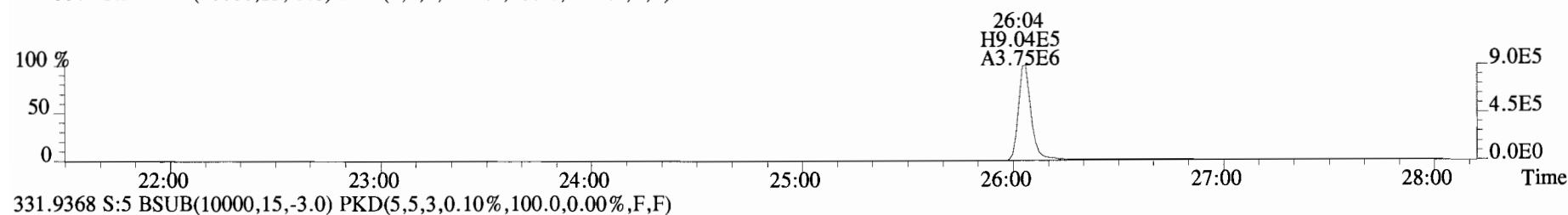
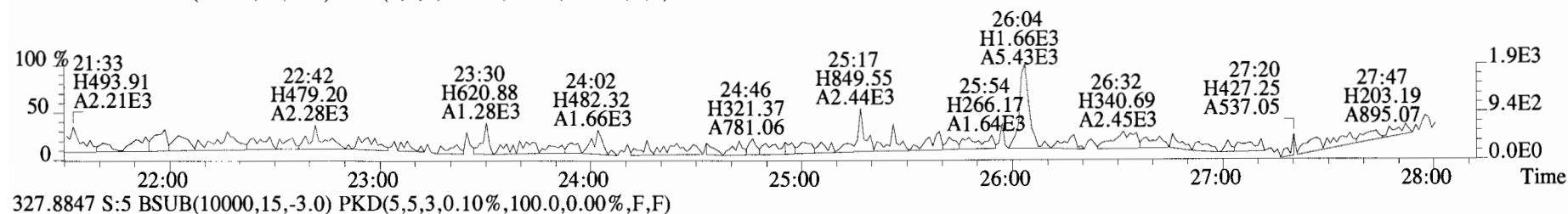
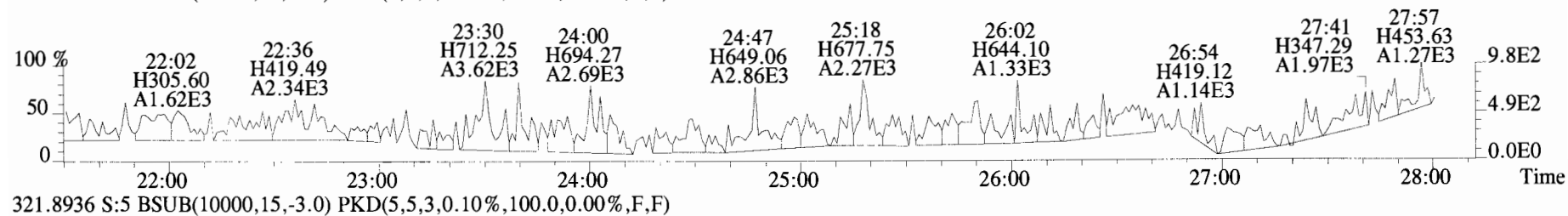
Processed: 28-JUN-19 14:14:10

Total Concentration: 0.34052

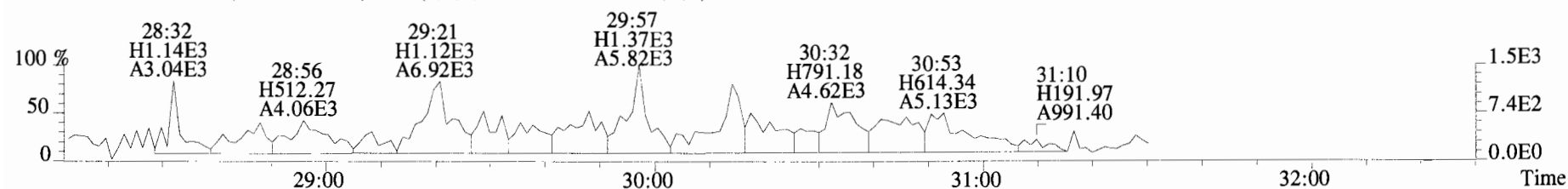
Unnamed Concentration: 0.341

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
37:02	3.786e+03	4.253e+03	0.89 y	8.039e+03	0.34052

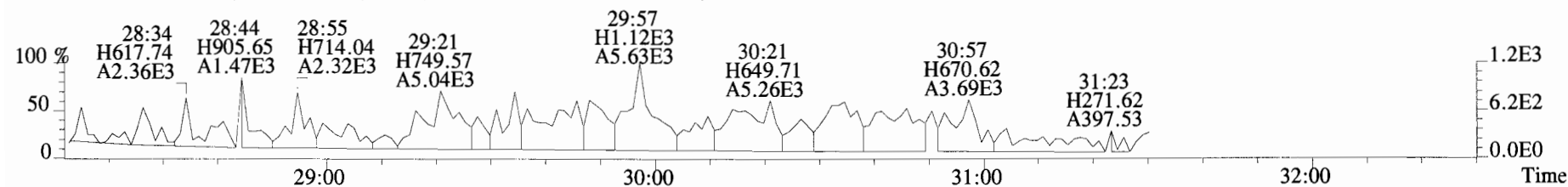
File:190627D2 #1-514 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
 319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



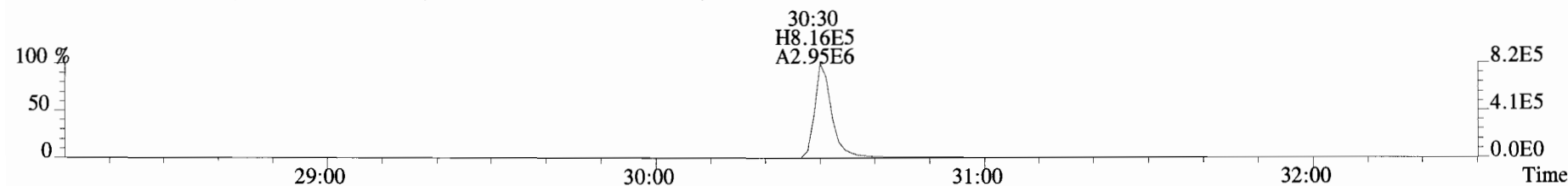
File:190627D2 #1-184 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
353.8576 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



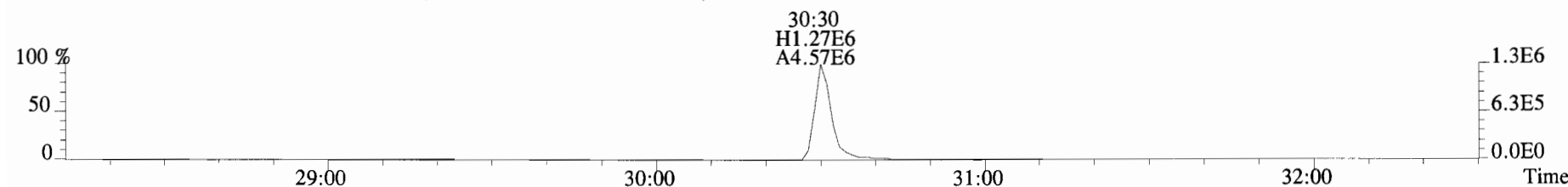
355.8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



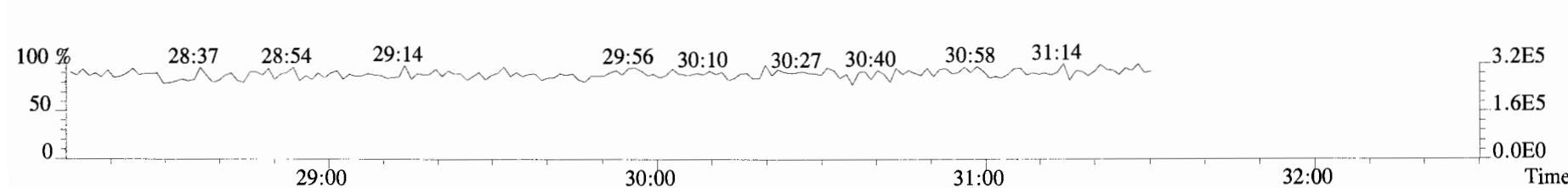
365.8978 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



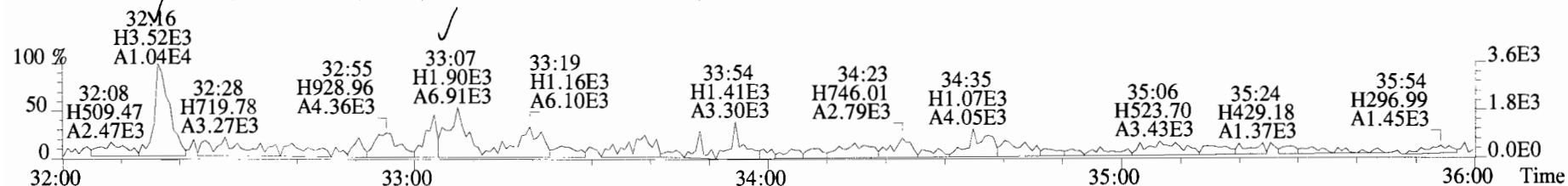
367.8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



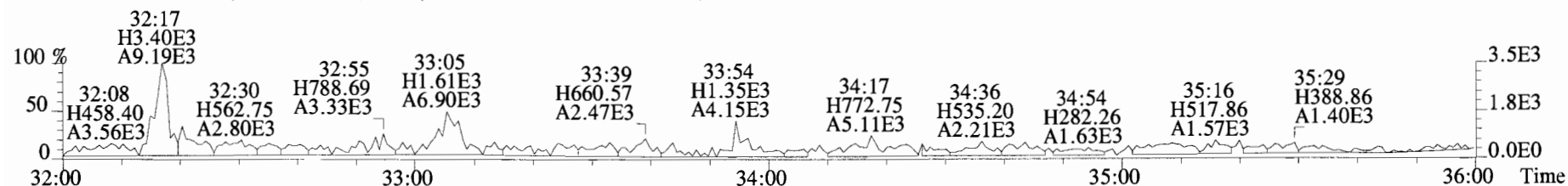
366.9792 S:5 F:2



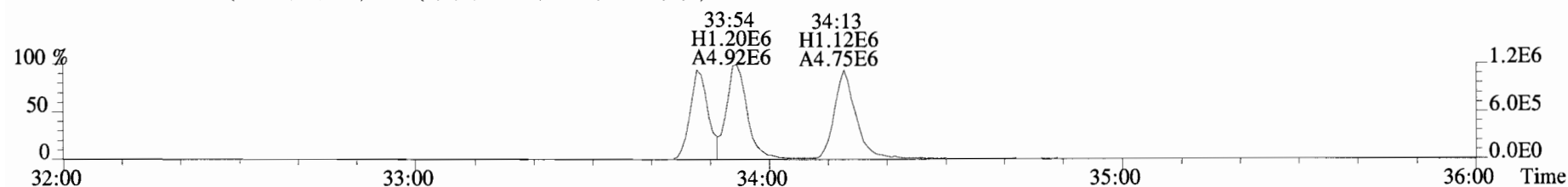
File:190627D2 #1-400 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



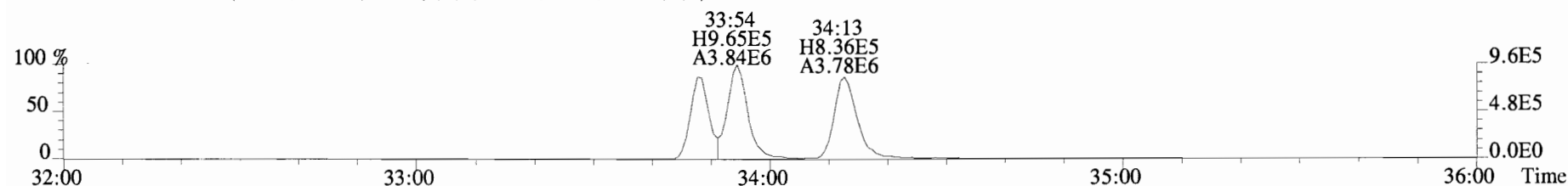
391.8127 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



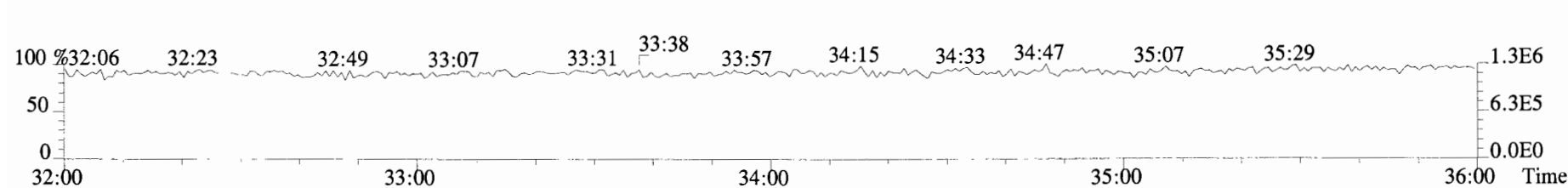
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



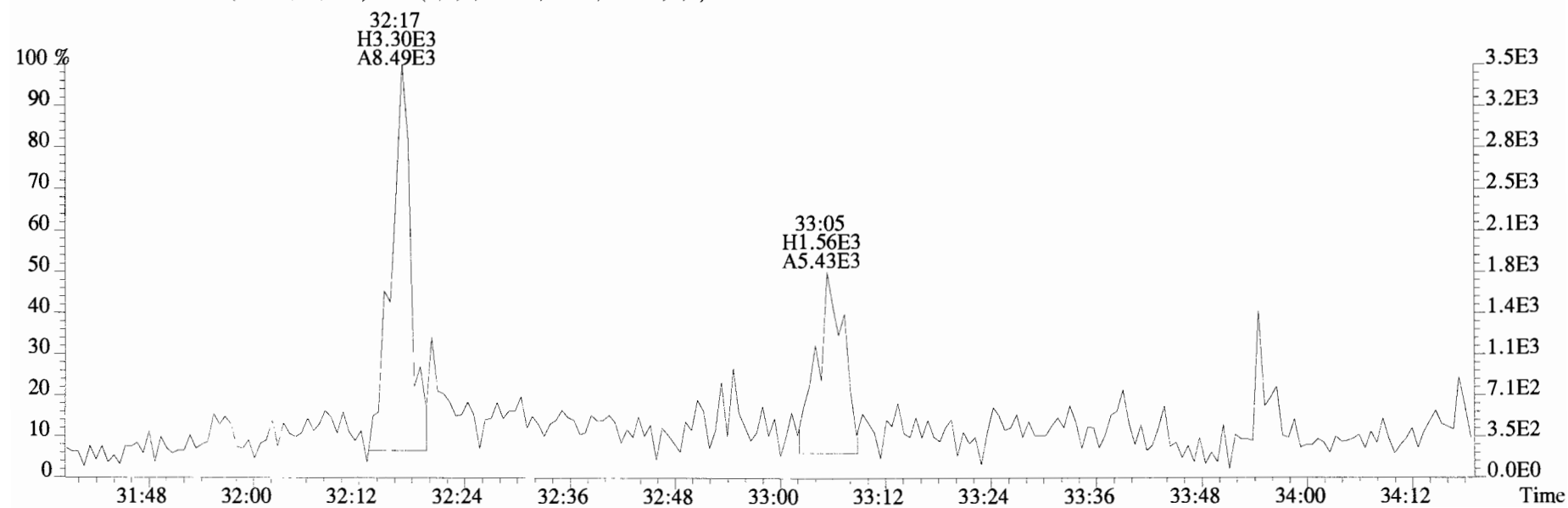
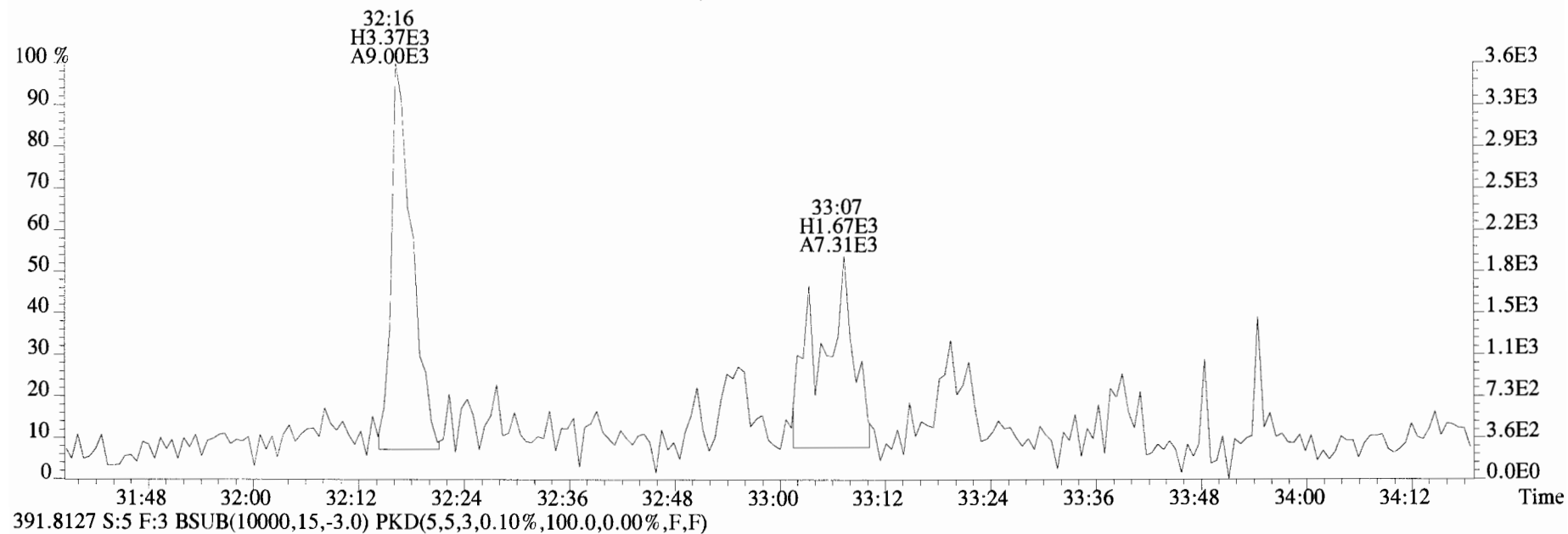
403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



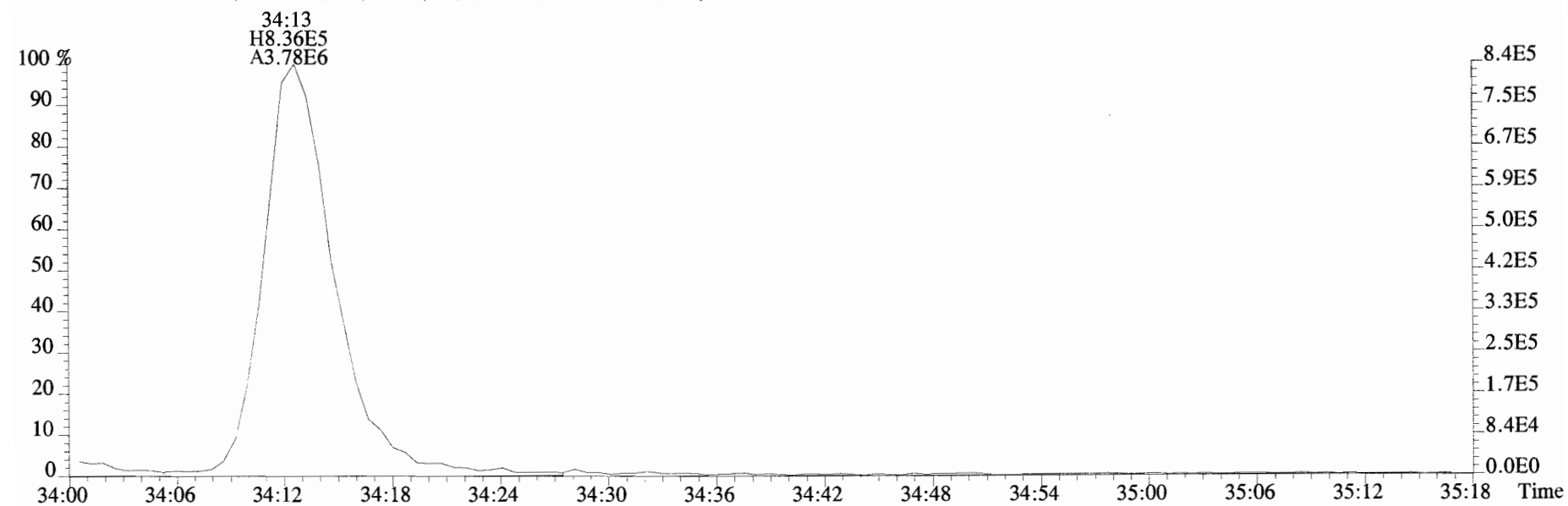
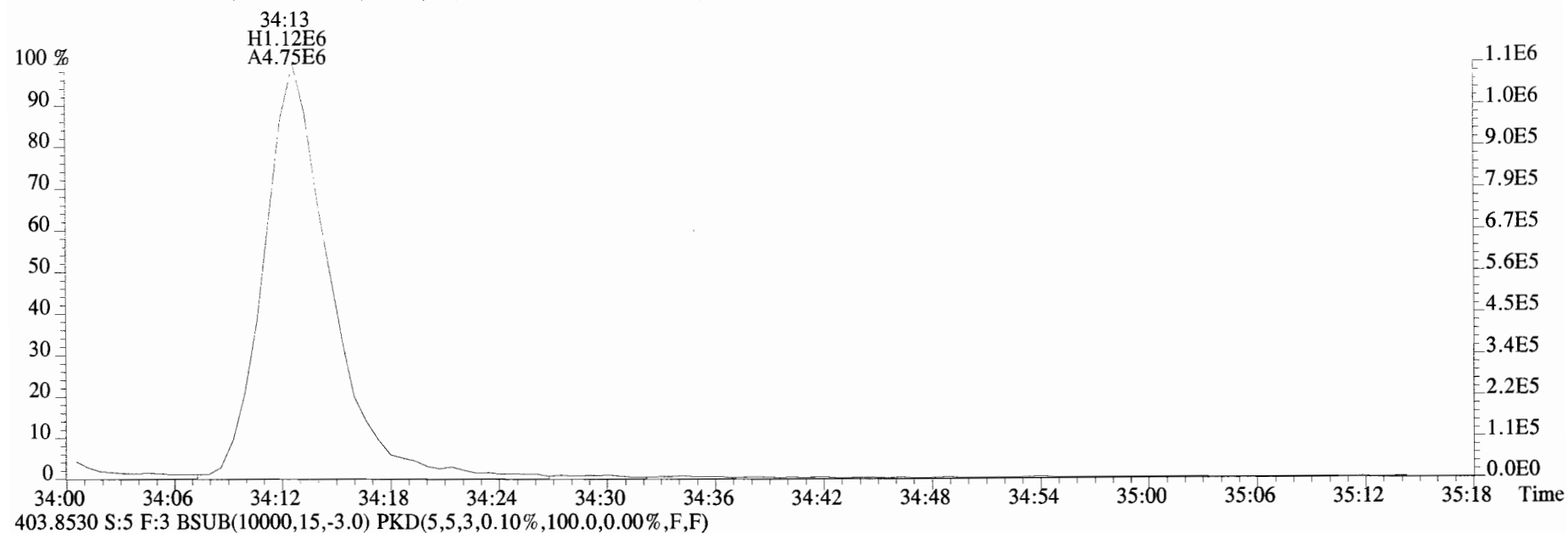
392.9760 S:5 F:3



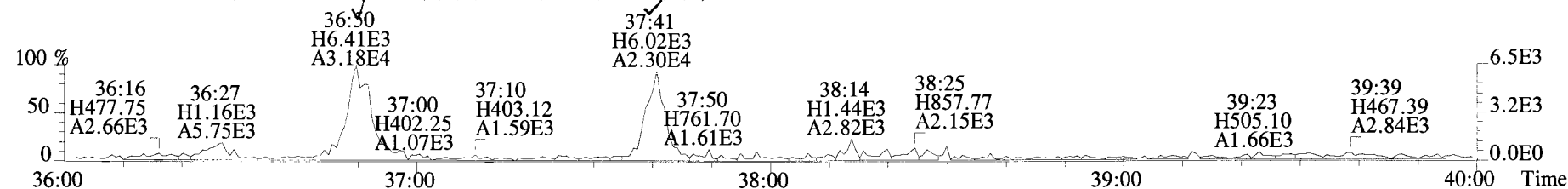
File:190627D2 #1-400 Acq:28-JUN-2019 08:18:01 GC E1+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



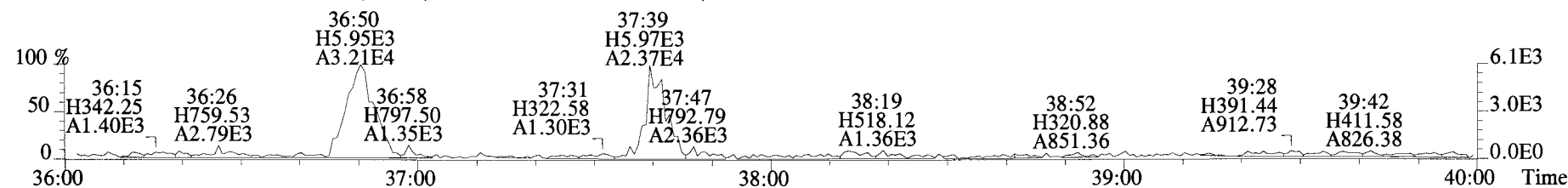
File:190627D2 #1-400 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



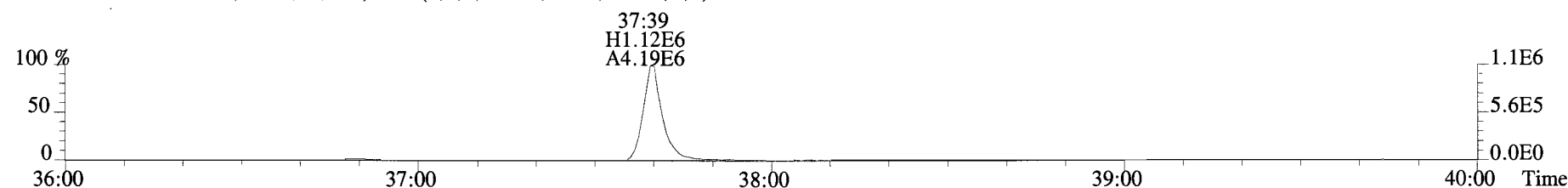
File:190627D2 #1-355 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista_Analytical_Laboratory_VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



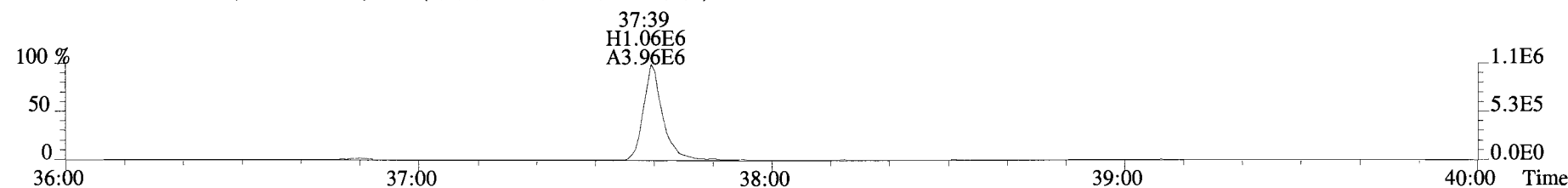
425.7737 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



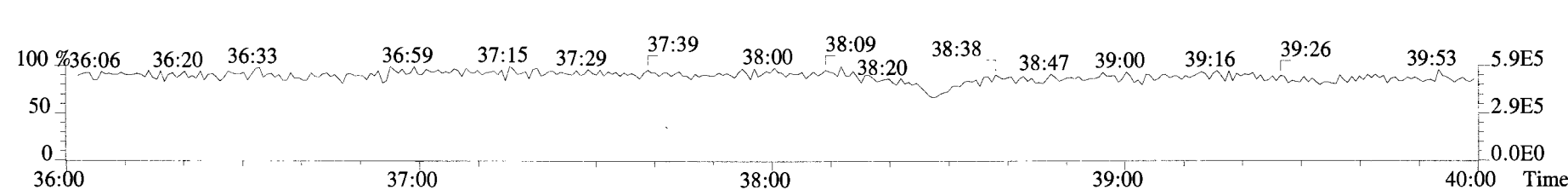
435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



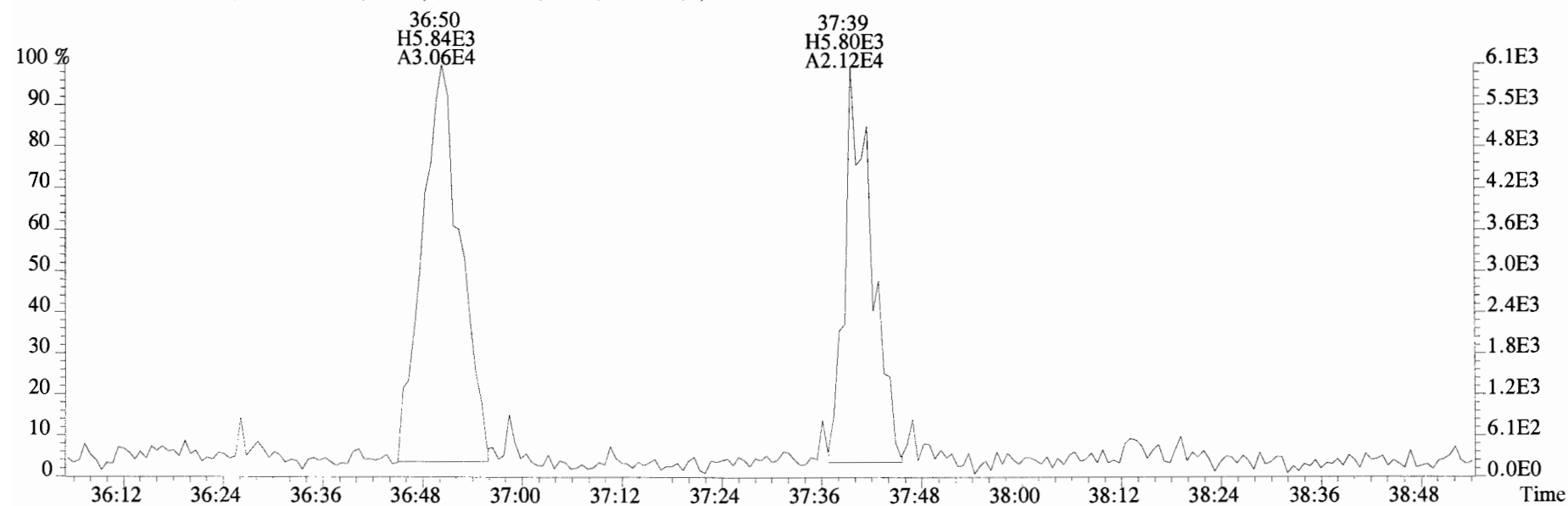
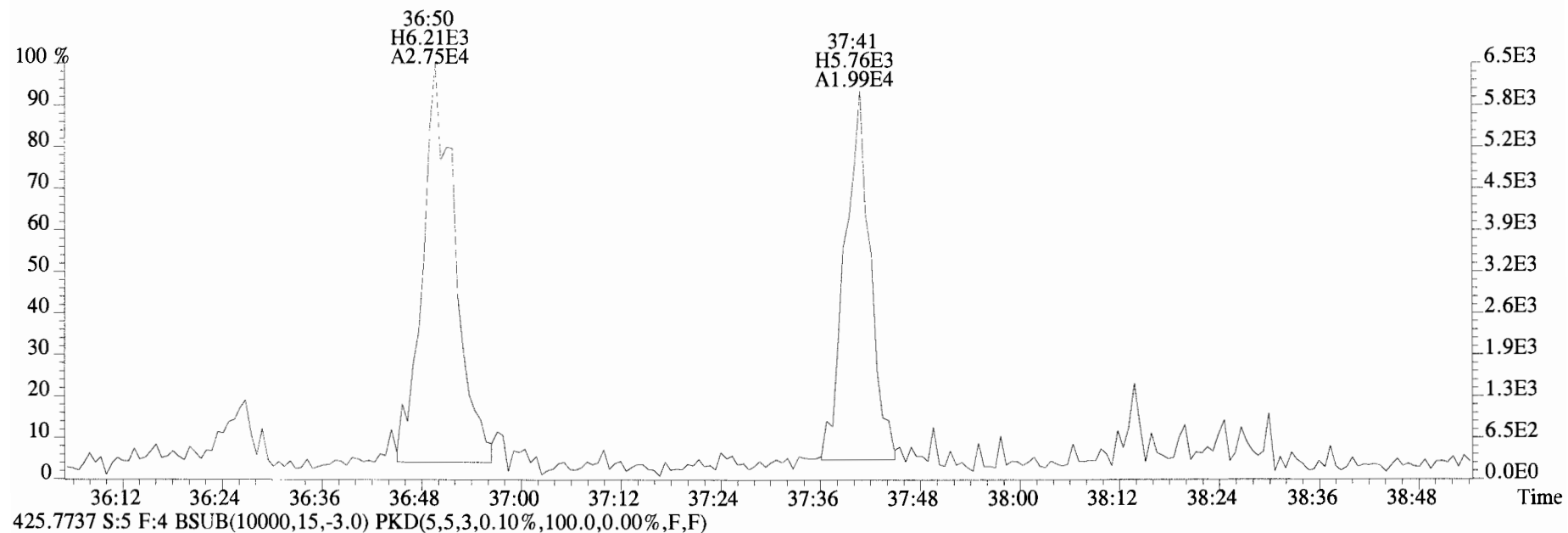
437.8140 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



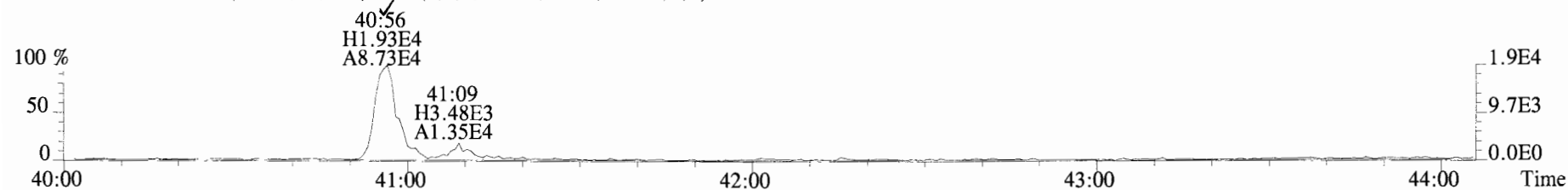
454.9728 S:5 F:4



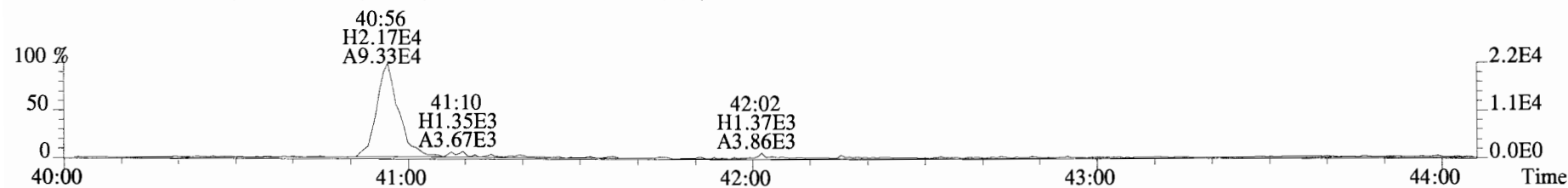
File:190627D2 #1-355 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



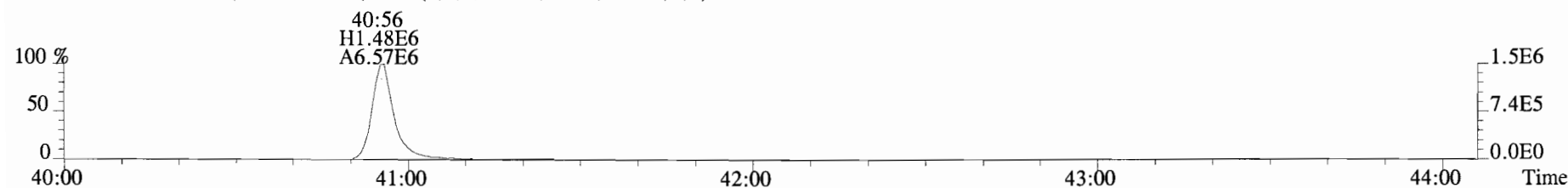
File:190627D2 #1-432 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



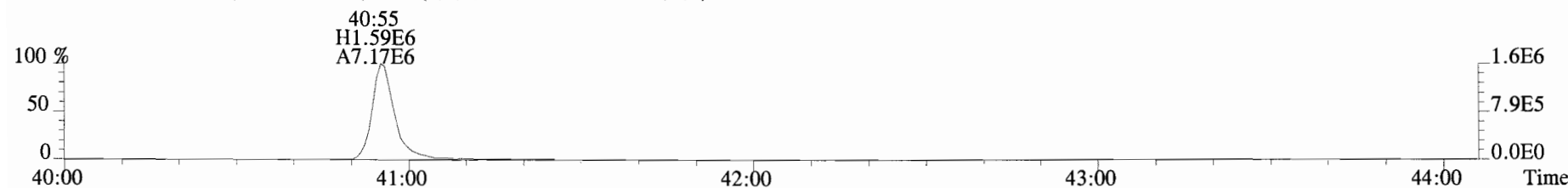
459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



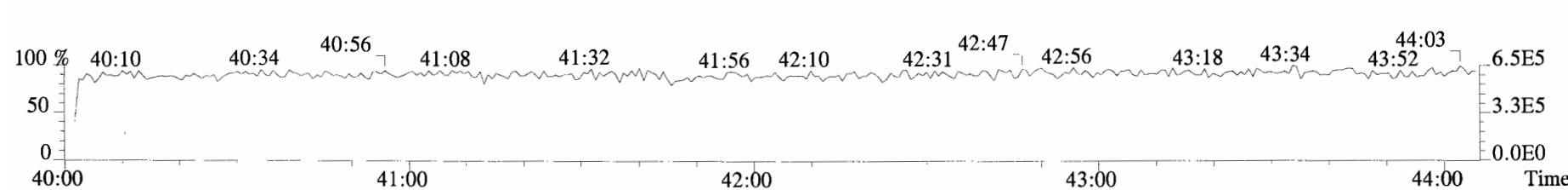
469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



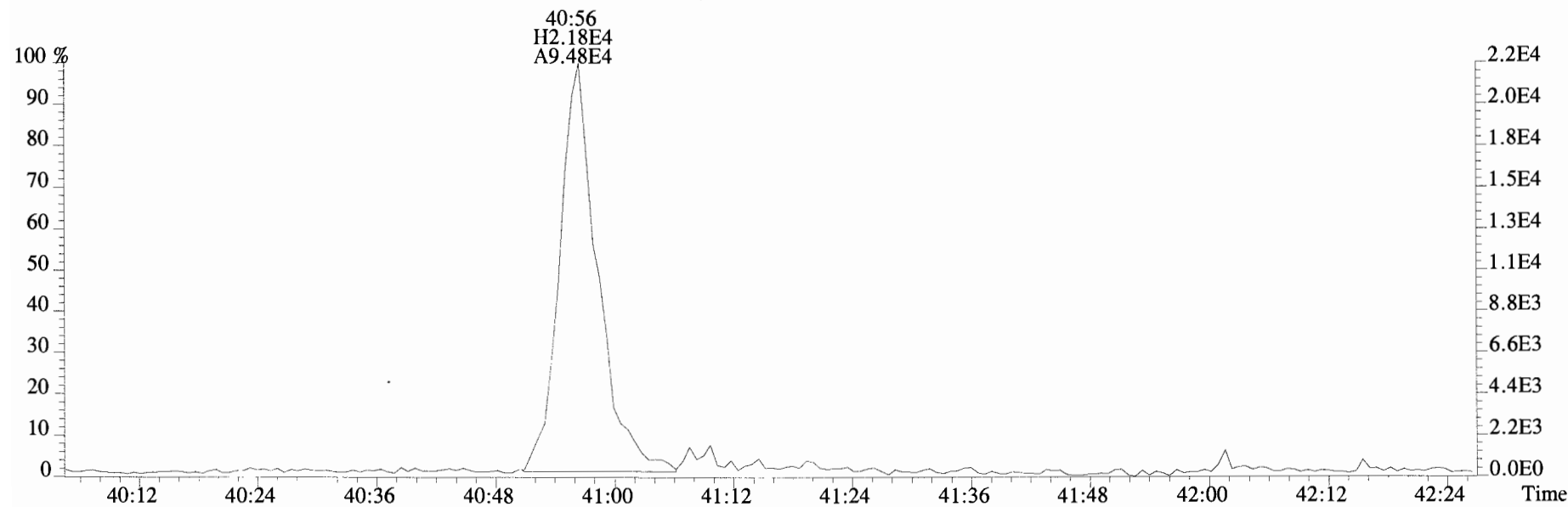
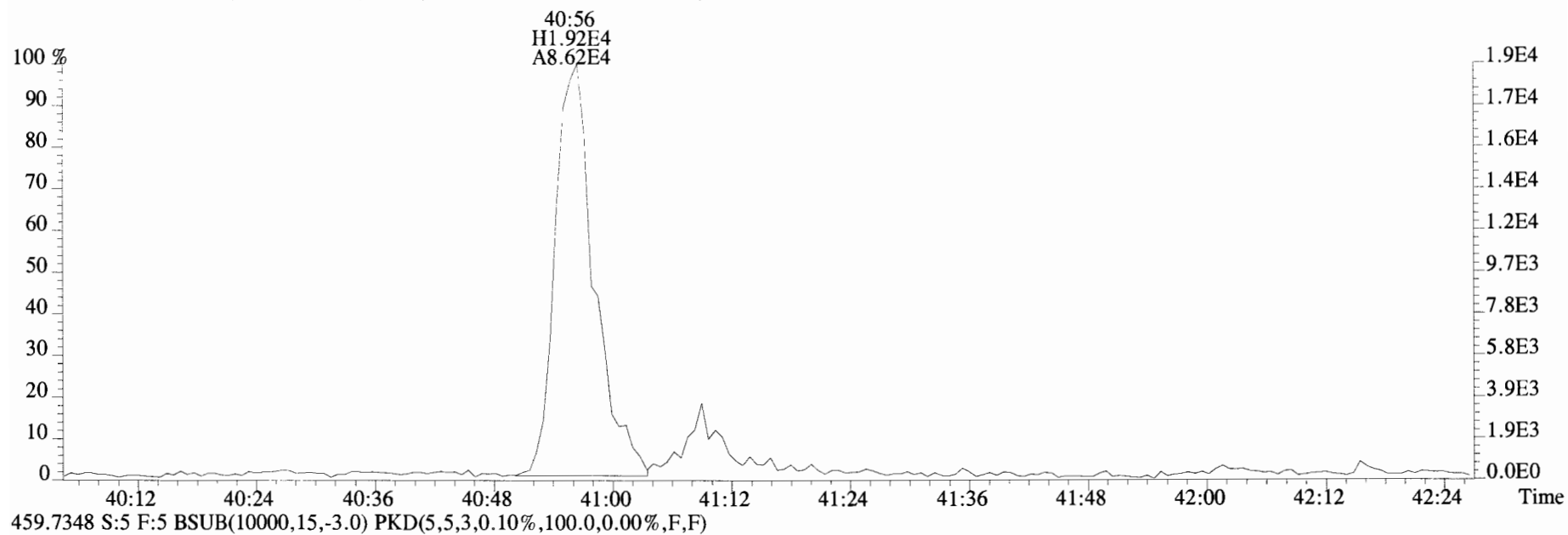
471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



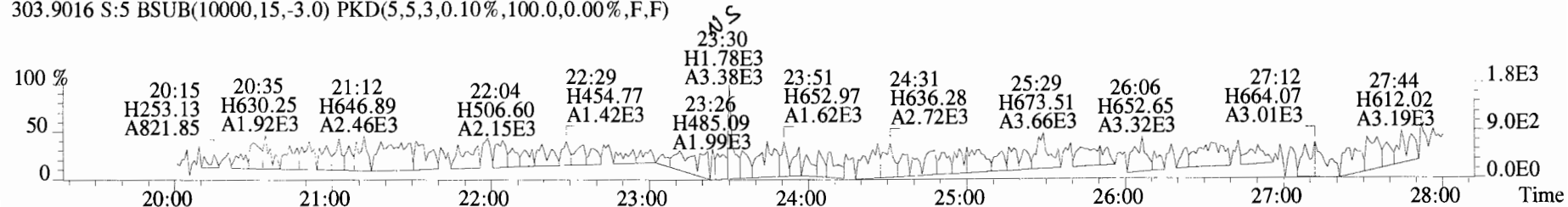
454.9728 S:5 F:5



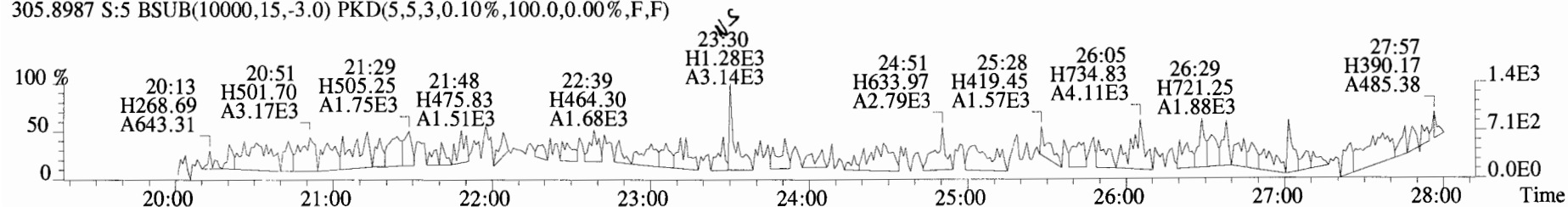
File:190627D2 #1-432 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



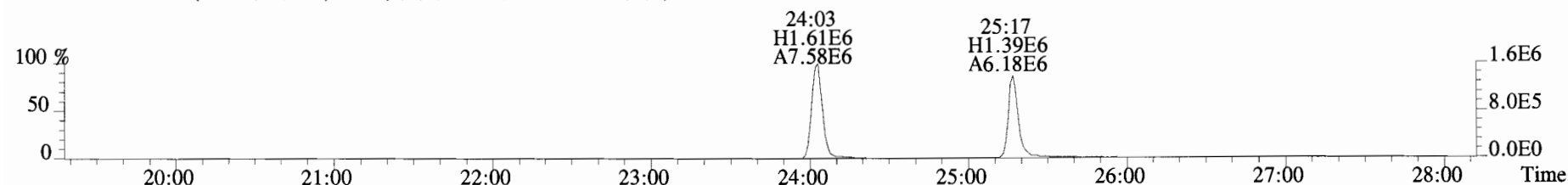
File:190627D2 #1-514 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory_VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



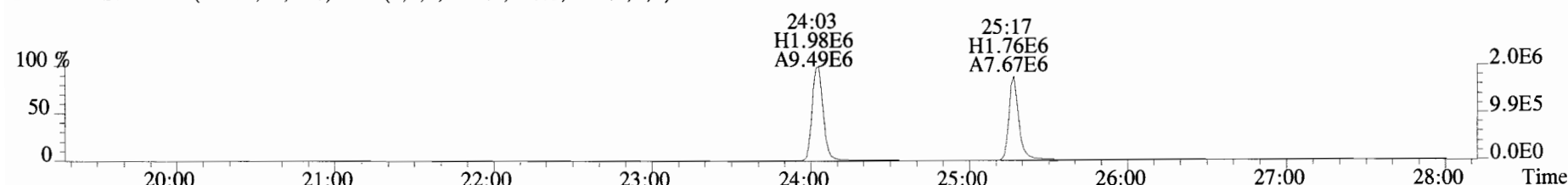
305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



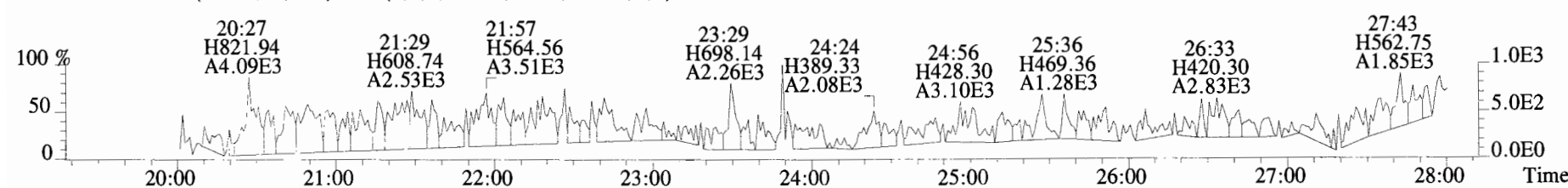
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



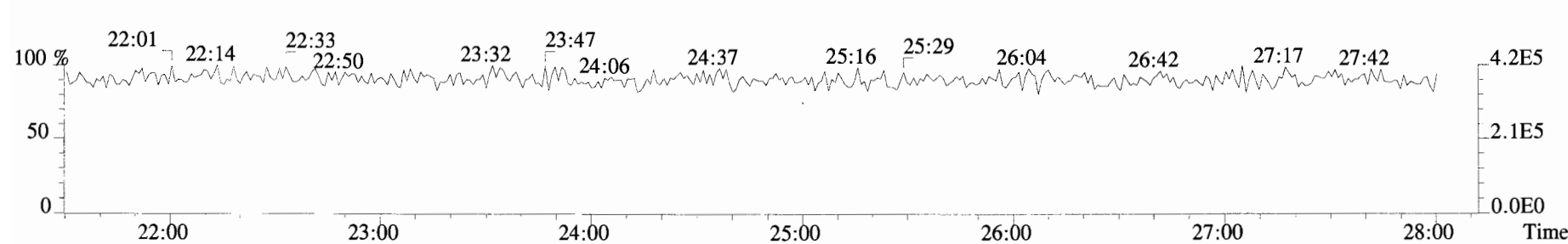
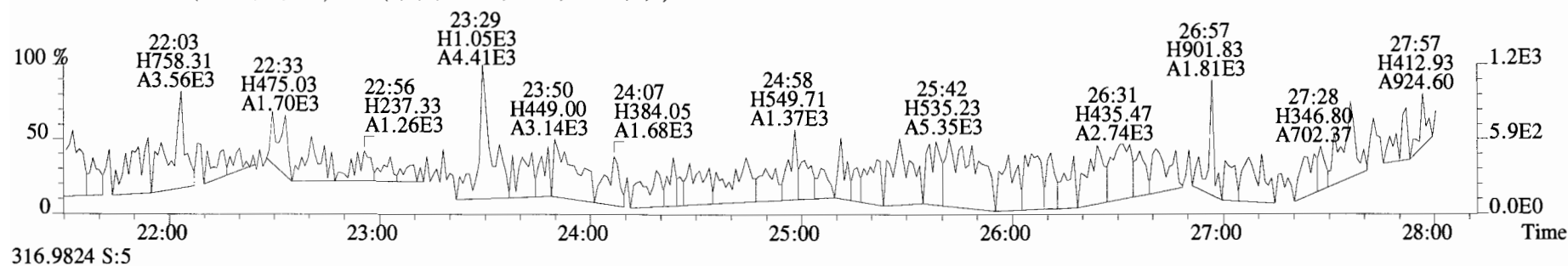
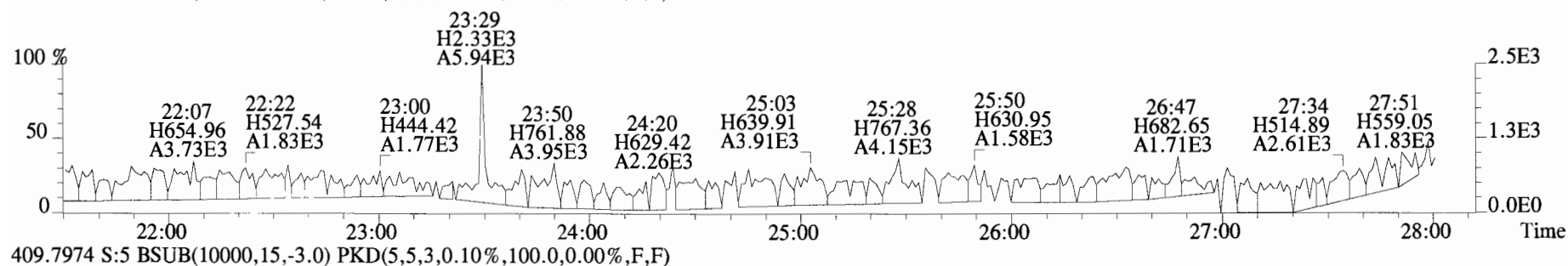
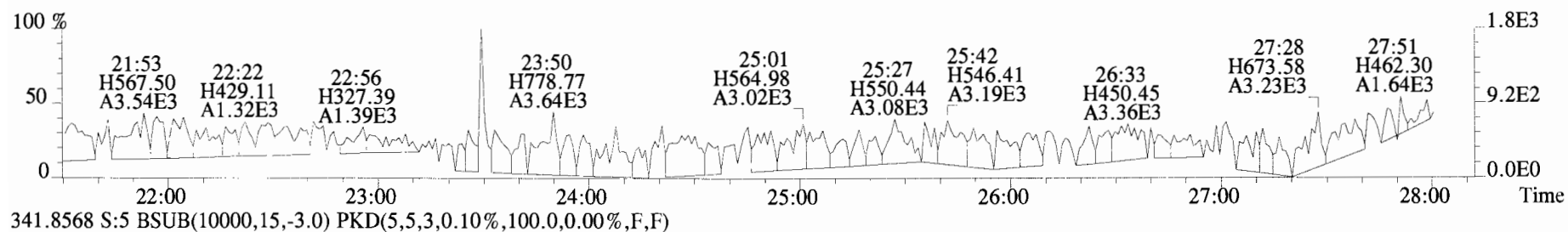
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



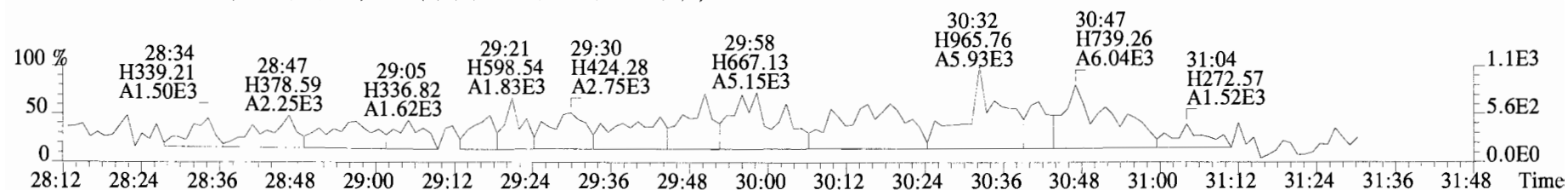
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



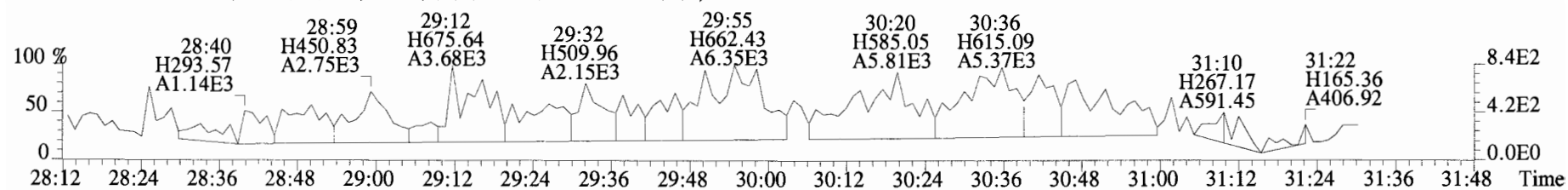
File:190627D2 #1-514 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



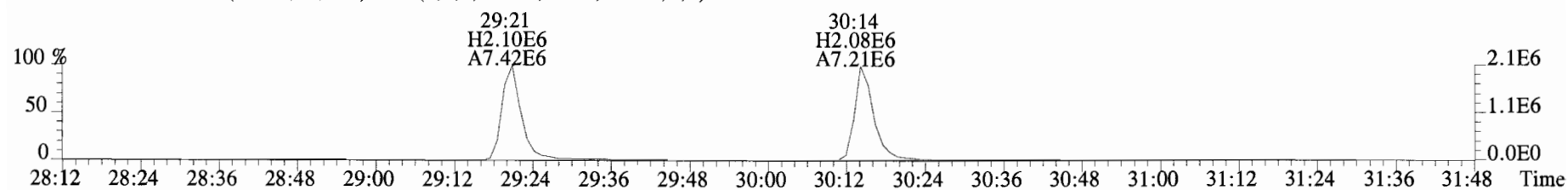
File:190627D2 #1-184 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



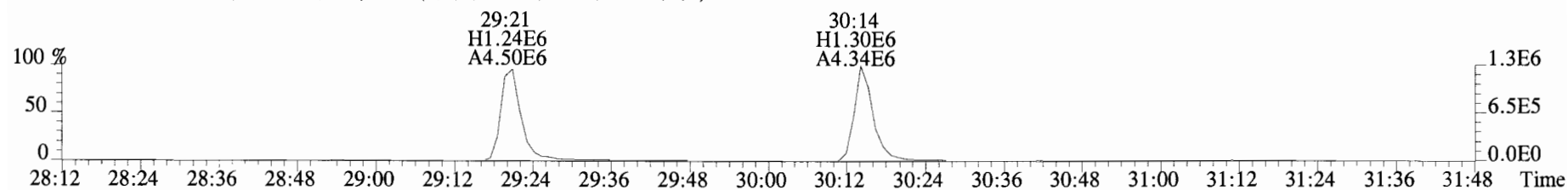
341.8568 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



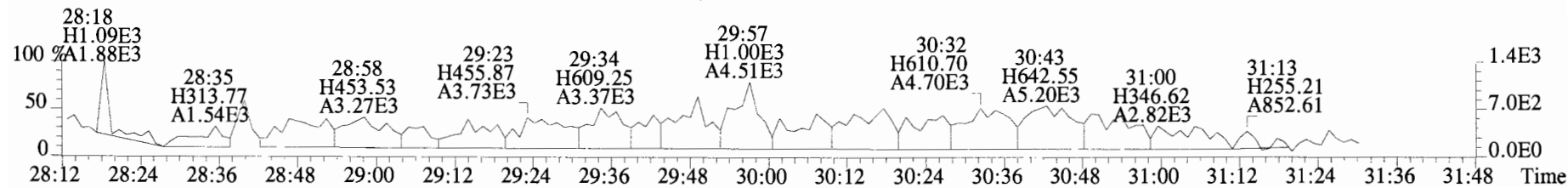
351.9000 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



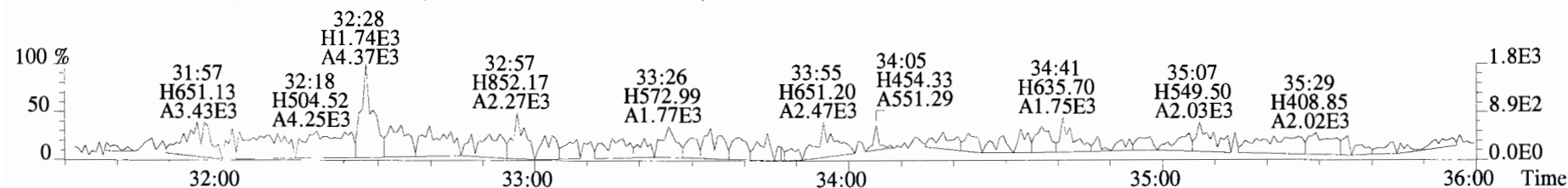
353.8970 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



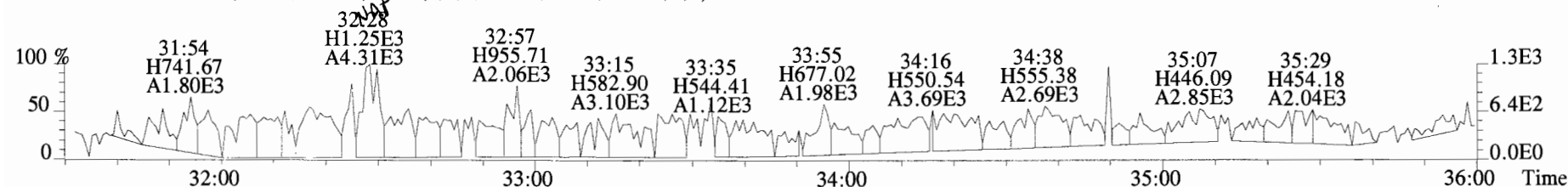
409.7974 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



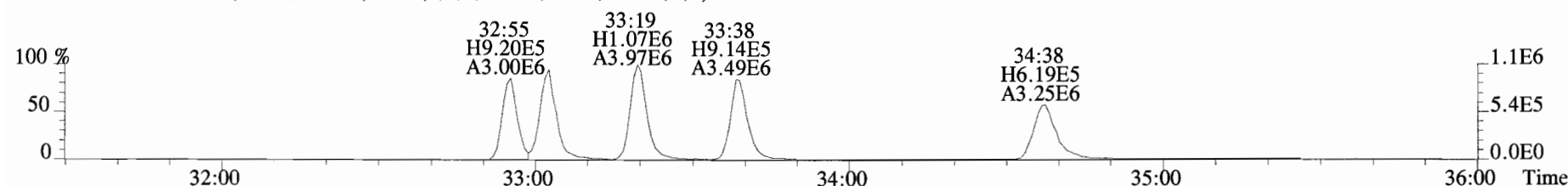
File:190627D2 #1-400 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista_Analytical_Laboratory_VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



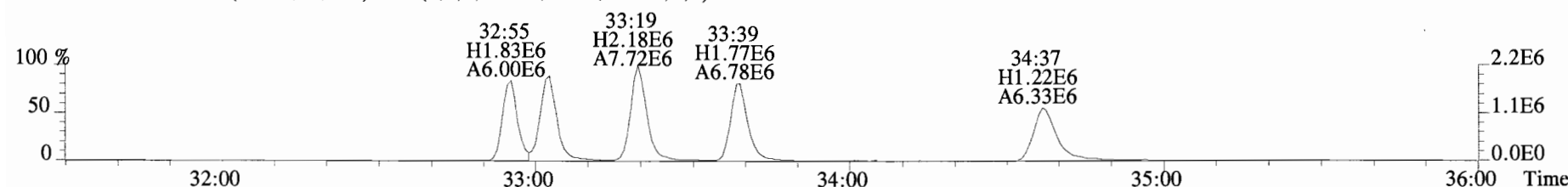
375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



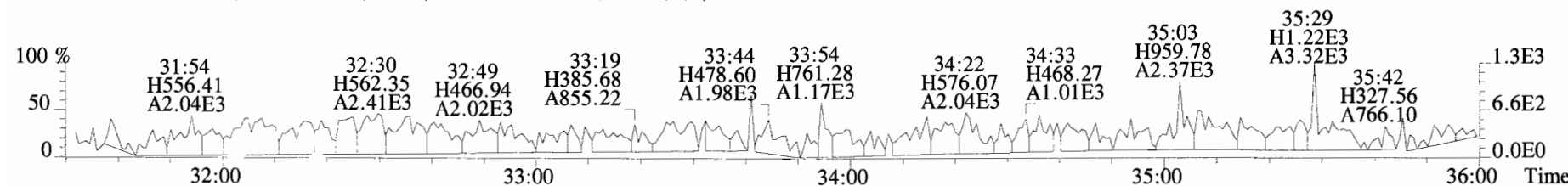
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



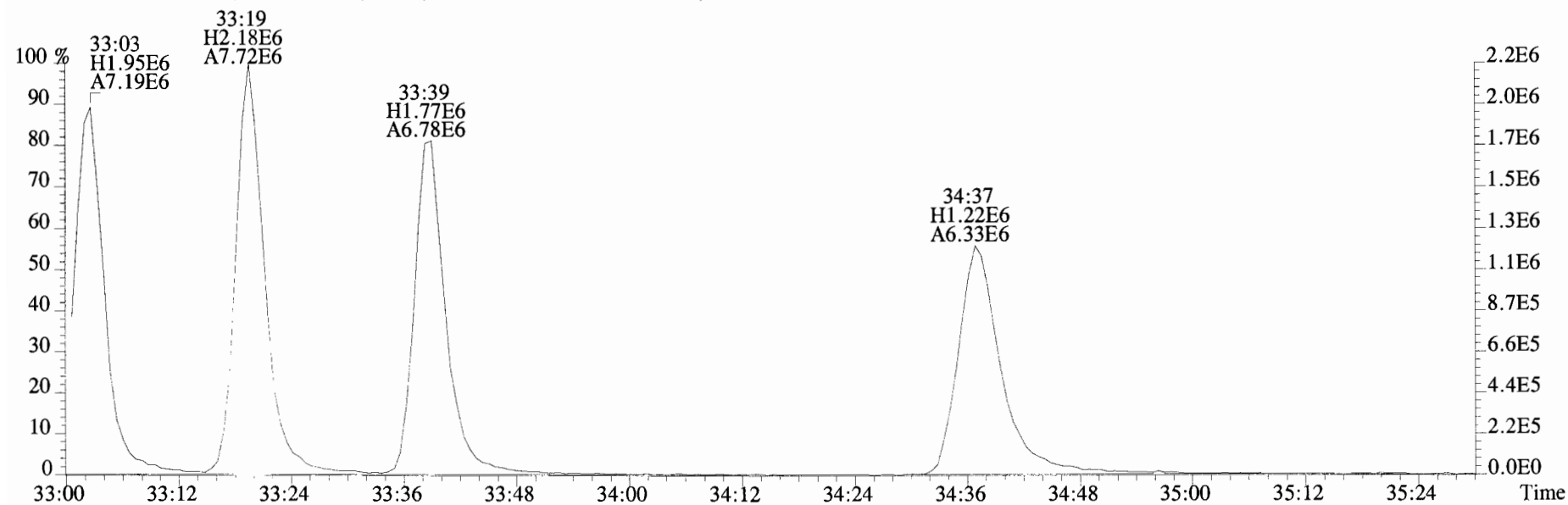
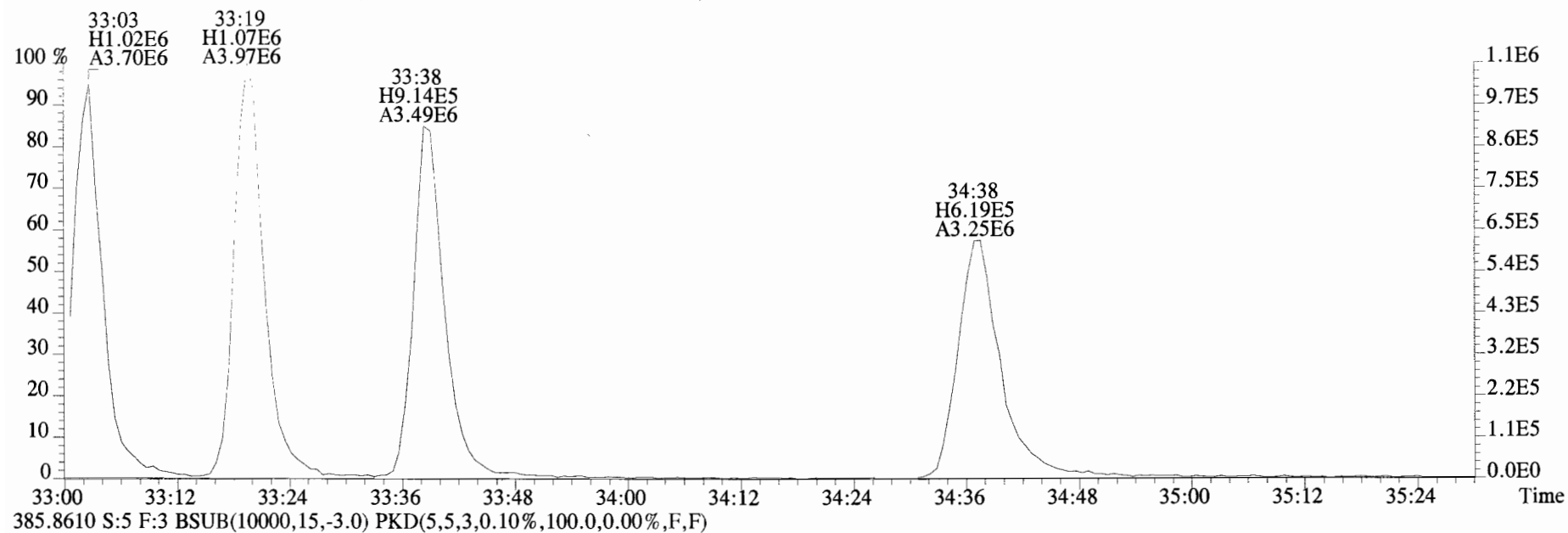
385.8610 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



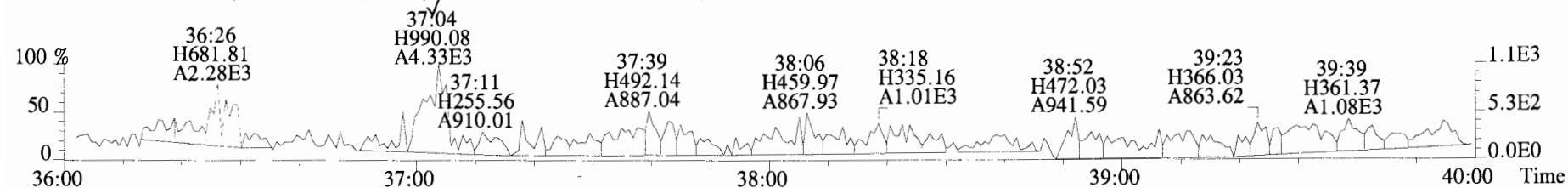
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



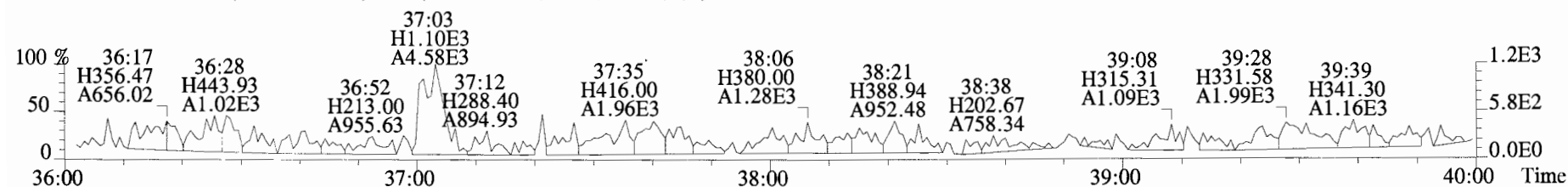
File:190627D2 #1-400 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



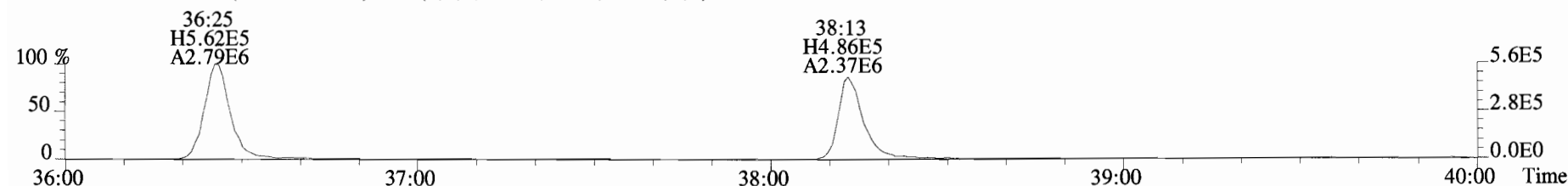
File:190627D2 #1-355 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text: Vista Analytical Laboratory VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
 407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



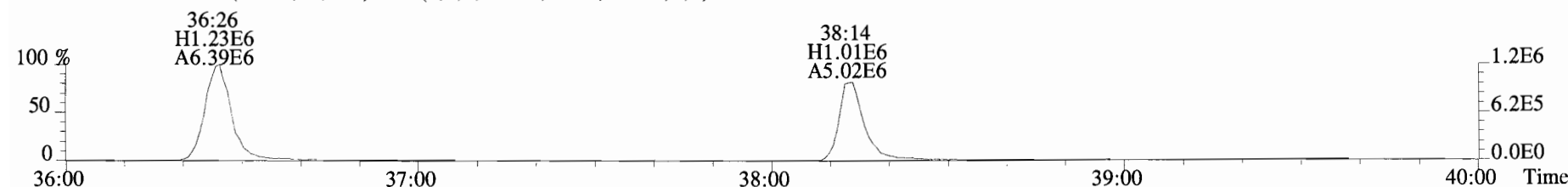
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



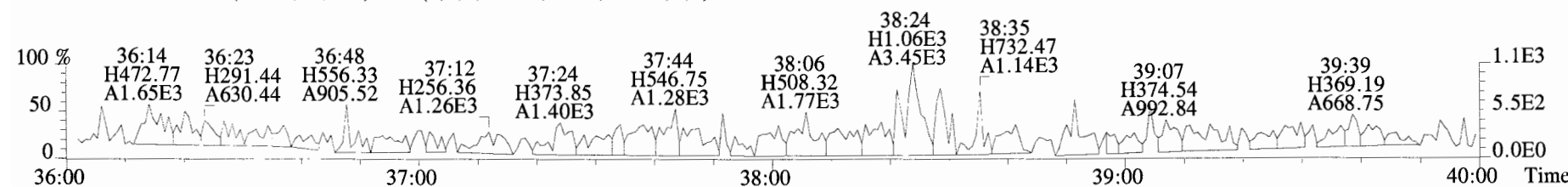
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



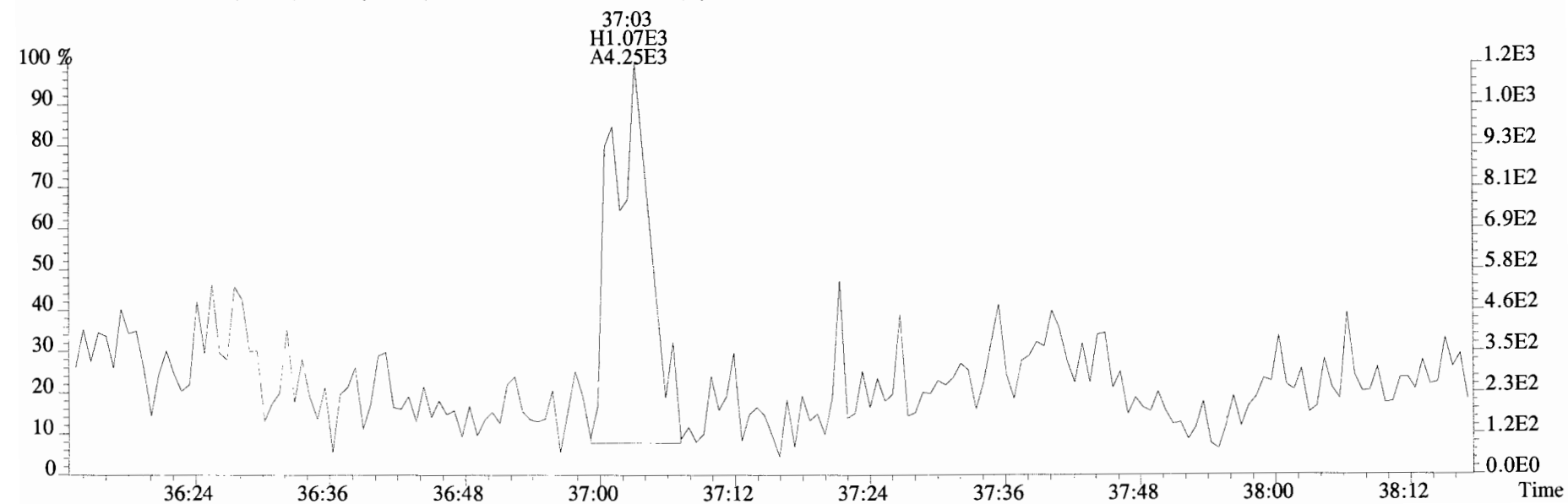
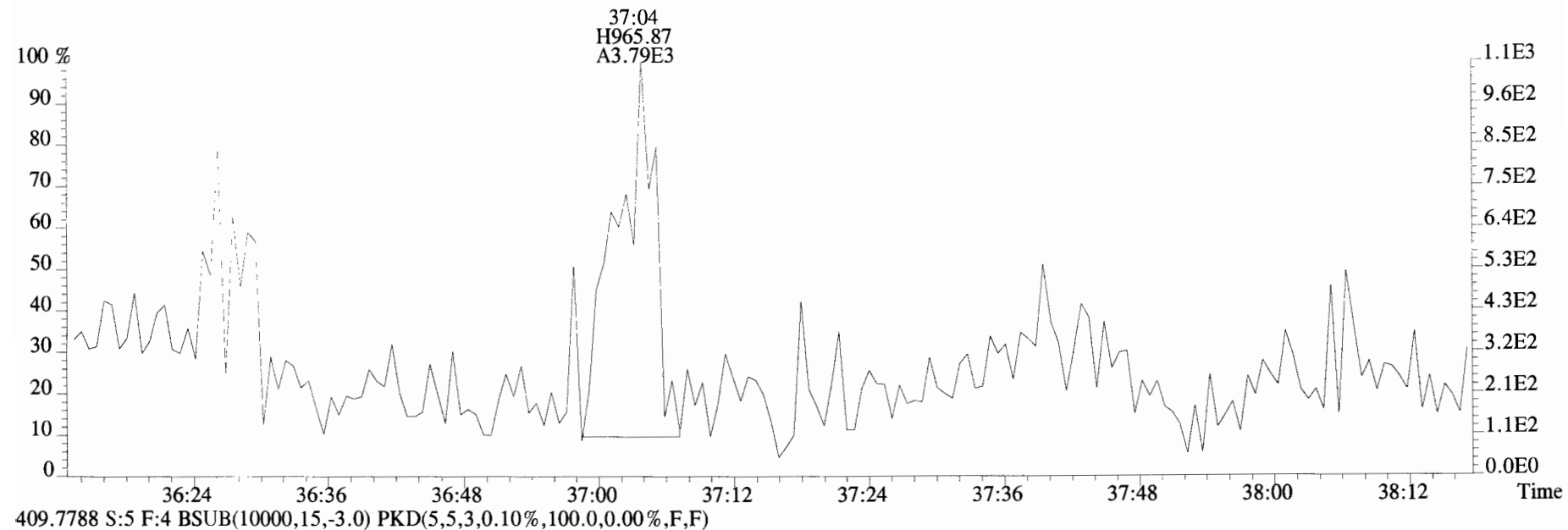
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



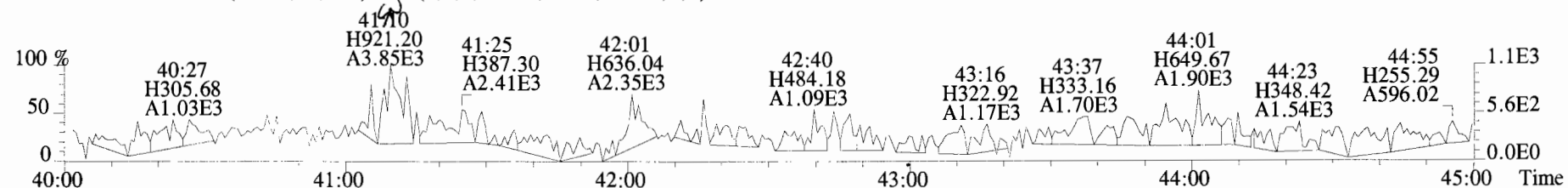
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



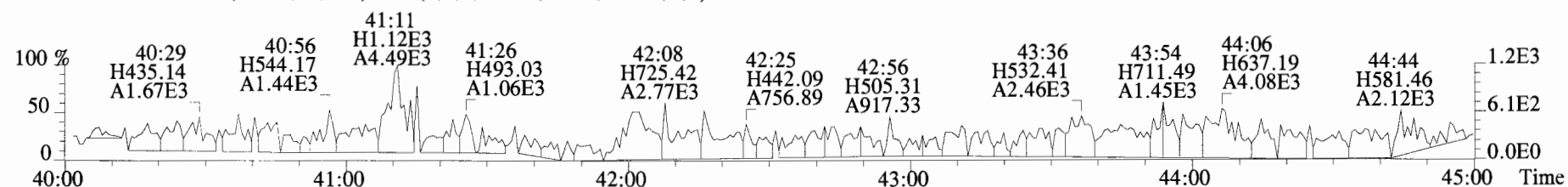
File:190627D2 #1-355 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



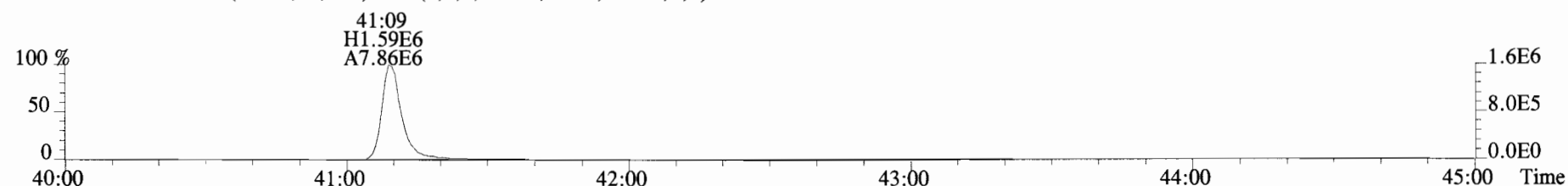
File:190627D2 #1-432 Acq:28-JUN-2019 08:18:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:1901246-12 T4-PDI2019-SC19-190521-01-03 7.31 Exp:OCDD_DB5
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



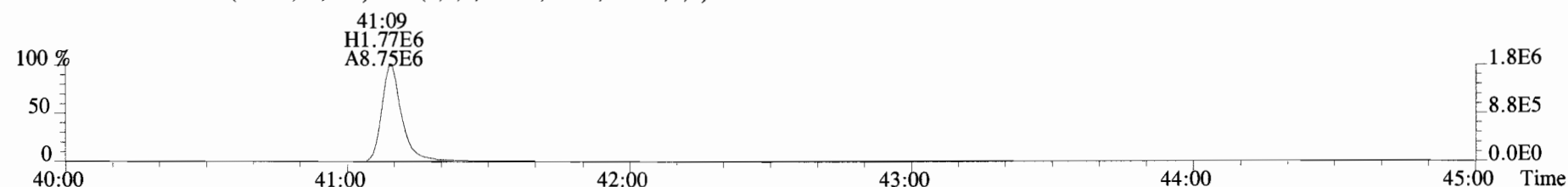
443.7398 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



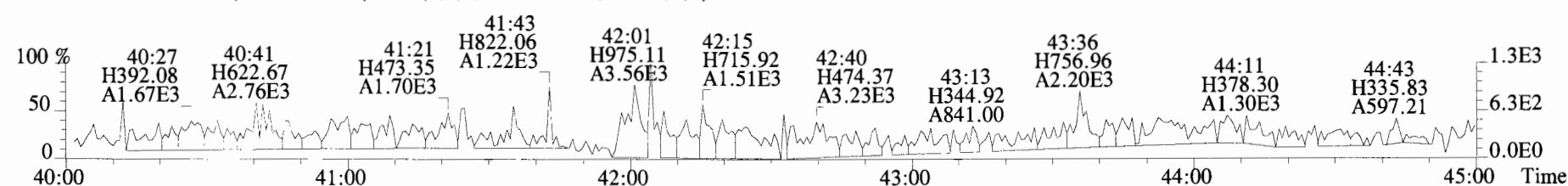
453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC19-1905217 Filename: 190712D1 S:10 Acq:12-JUL-19 20:44:44
Lab ID: 1901246-13RE1 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.012

ConCal: ST190712D1-1
EndCAL: NA

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Name		Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	*	* n	0.90	Not F ₇	*		130	2.5	0.135	Total Tetra-Dioxins	0.641	0.641	*	*	
	1,2,3,7,8-PeCDD	*	* n	0.87	Not F ₇	*		239	2.5	0.218	Total Penta-Dioxins	*	*		239	0.218
	1,2,3,4,7,8-HxCDD	*	* n	1.05	Not F ₇	*		228	2.5	0.334	Total Hexa-Dioxins	1.06	1.06	*	*	
	1,2,3,6,7,8-HxCDD	*	* n	0.93	Not F ₇	*		228	2.5	0.328	Total Hepta-Dioxins	4.22	4.22	*	*	
	1,2,3,7,8,9-HxCDD	*	* n	0.96	Not F ₇	*		228	2.5	0.314	Total Tetra-Furans	*	*		182	0.148
	1,2,3,4,6,7,8-HpCDD	2.23e+04	0.90 y	0.99	38:08	1.4437		*	2.5	*	Total Penta-Furans	0.0000	0.0000		157	0.142
	OCDD	1.55e+05	1.02 y	0.99	41:30	12.614		*	2.5	*	Total Hexa-Furans	*	*		144	0.0914
											Total Hepta-Furans	*	*		129	0.0985
	2,3,7,8-TCDF	*	* n	0.94	Not F ₇	*		182	2.5	0.148						
	1,2,3,7,8-PeCDF	*	* n	0.92	Not F ₇	*		157	2.5	0.140						
	2,3,4,7,8-PeCDF	*	* n	0.96	Not F ₇	*		157	2.5	0.145						
	1,2,3,4,7,8-HxCDF	*	* n	1.15	Not F ₇	*		144	2.5	0.0830						
	1,2,3,6,7,8-HxCDF	*	* n	1.04	Not F ₇	*		144	2.5	0.0842						
	2,3,4,6,7,8-HxCDF	*	* n	1.10	Not F ₇	*		144	2.5	0.0859						
	1,2,3,7,8,9-HxCDF	*	* n	1.03	Not F ₇	*		144	2.5	0.115						
	1,2,3,4,6,7,8-HpCDF	*	* n	1.06	Not F ₇	*		129	2.5	0.0927						
	1,2,3,4,7,8,9-HpCDF	*	* n	1.23	Not F ₇	*		129	2.5	0.105						
	OCDF	*	* n	0.94	Not F ₇	*		172	2.5	0.251						
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	6.52e+06	0.81 y	1.11	26:42	235.22					58.9					
IS	13C-1,2,3,7,8-PeCDD	6.03e+06	0.63 y	0.98	31:00	246.42					61.7					
IS	13C-1,2,3,4,7,8-HxCDD	5.53e+06	1.29 y	0.68	34:20	287.41					72.0					
IS	13C-1,2,3,6,7,8-HxCDD	6.53e+06	1.27 y	0.84	34:27	272.55					68.3					
IS	13C-1,2,3,7,8,9-HxCDD	6.65e+06	1.29 y	0.81	34:45	287.87					72.1					
IS	13C-1,2,3,4,6,7,8-HpCDD	6.23e+06	1.05 y	0.69	38:07	318.93					79.9					
IS	13C-OCDD	9.95e+06	0.91 y	0.62	41:30	559.42					70.1					
IS	13C-2,3,7,8-TCDF	8.47e+06	0.76 y	1.05	25:59	197.84					49.6					
IS	13C-1,2,3,7,8-PeCDF	8.97e+06	1.59 y	0.95	29:52	230.73					57.8					
IS	13C-2,3,4,7,8-PeCDF	8.46e+06	1.60 y	0.94	30:44	222.17					55.7					
IS	13C-1,2,3,4,7,8-HxCDF	7.54e+06	0.52 y	0.86	33:25	309.22					77.5					
IS	13C-1,2,3,6,7,8-HxCDF	8.80e+06	0.51 y	1.02	33:33	302.61					75.8					
IS	13C-2,3,4,6,7,8-HxCDF	8.23e+06	0.52 y	0.95	34:10	303.54					76.1					
IS	13C-1,2,3,7,8,9-HxCDF	7.54e+06	0.52 y	0.87	35:10	305.24					76.5					
IS	13C-1,2,3,4,6,7,8-HpCDF	7.23e+06	0.43 y	0.81	36:59	314.43					78.8					
IS	13C-1,2,3,4,7,8,9-HpCDF	5.61e+06	0.43 y	0.63	38:42	311.65					78.1					
IS	13C-OCDF	1.26e+07	0.90 y	0.78	41:45	564.20					70.7					
C/Up	37Cl-2,3,7,8-TCDD	3.02e+06		1.22	26:43	98.842					61.9					
												Integrations				
												by				
RS/RT	13C-1,2,3,4-TCDD	1.00e+07	0.80 y	1.00	26:09	399.06						Analyst: DB				
RS	13C-1,2,3,4-TCDF	1.62e+07	0.80 y	1.00	24:51	399.06										
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.14e+07	0.50 y	1.00	33:51	399.06										

Integrations
by DB
Analyst: DB
Date: 7/25/19
Reviewed
by CT
Analyst: CT
Date: 08/08/19

Totals class: TCDD EMPC

Entry #: 19

Run: 15

File: 190712D1

S: 10 I: 1 F: 1

Acquired: 12-JUL-19 20:44:44

Processed: 15-JUL-19 11:00:45

Total Concentration: 0.64097

Unnamed Concentration: 0.641

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
24:57	4.194e+03	5.247e+03	0.80 y	9.442e+03	0.64097

Totals class: HxCDD EMPC

Entry #: 23

Run: 15

File: 190712D1

S: 10 I: 1 F: 3

Acquired: 12-JUL-19 20:44:44

Processed: 15-JUL-19 11:00:45

Total Concentration: 1.0619

Unnamed Concentration: 1.062

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:46	8.640e+03	7.552e+03	1.14 y	1.619e+04	1.0619

Totals class: HpCDD EMPC

Entry #: 25

Run: 15

File: 190712D1

S: 10 I: 1 F: 4

Acquired: 12-JUL-19 20:44:44

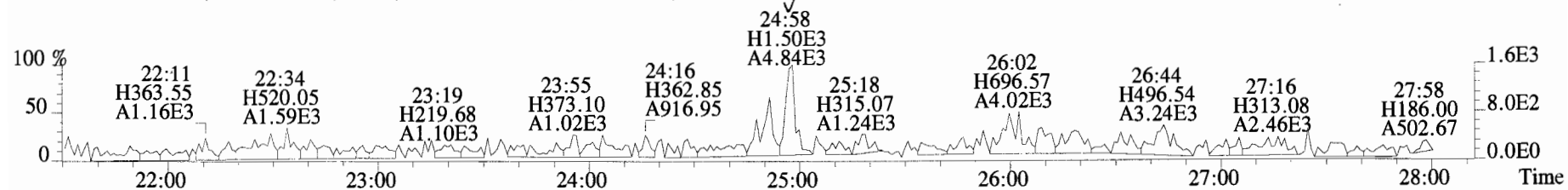
Processed: 15-JUL-19 11:00:45

Total Concentration: 4.2161

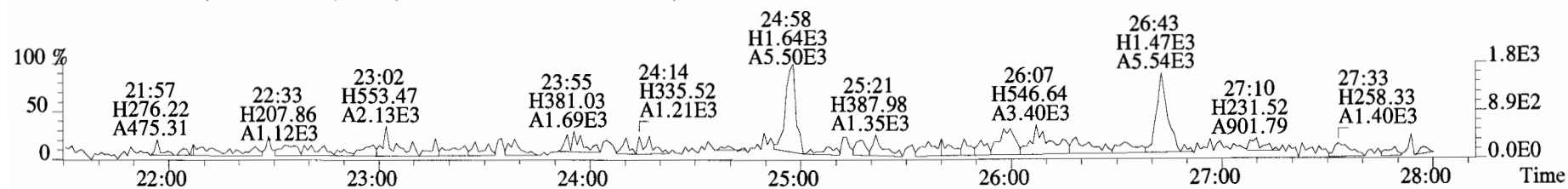
Unnamed Concentration: 2.772

RT	m1 Resp	m2 Resp	RA	Resp Concentration		Name
37:19	2.266e+04	2.010e+04	1.13 y	4.277e+04	2.7724	
38:08	1.054e+04	1.173e+04	0.90 y	2.227e+04	1.4437	1,2,3,4,6,7,8-HpCDD

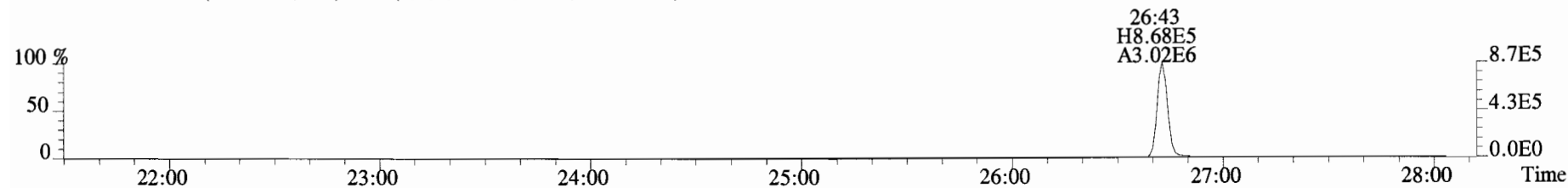
File:190712D1 #1-513 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
 319.8965 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



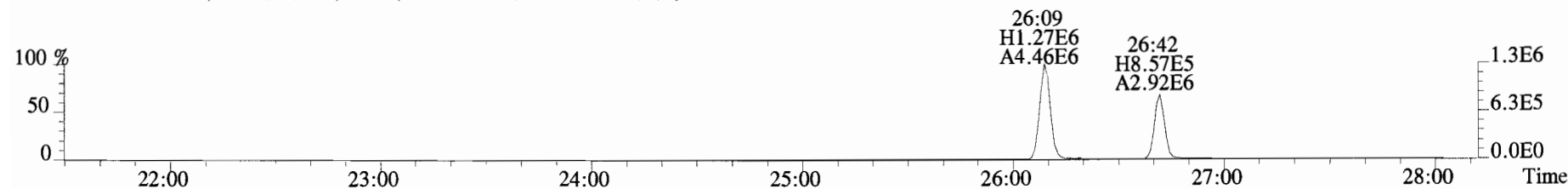
321.8936 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



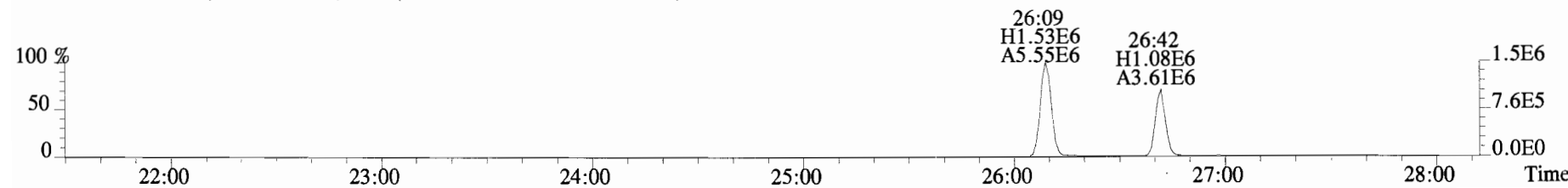
327.8847 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



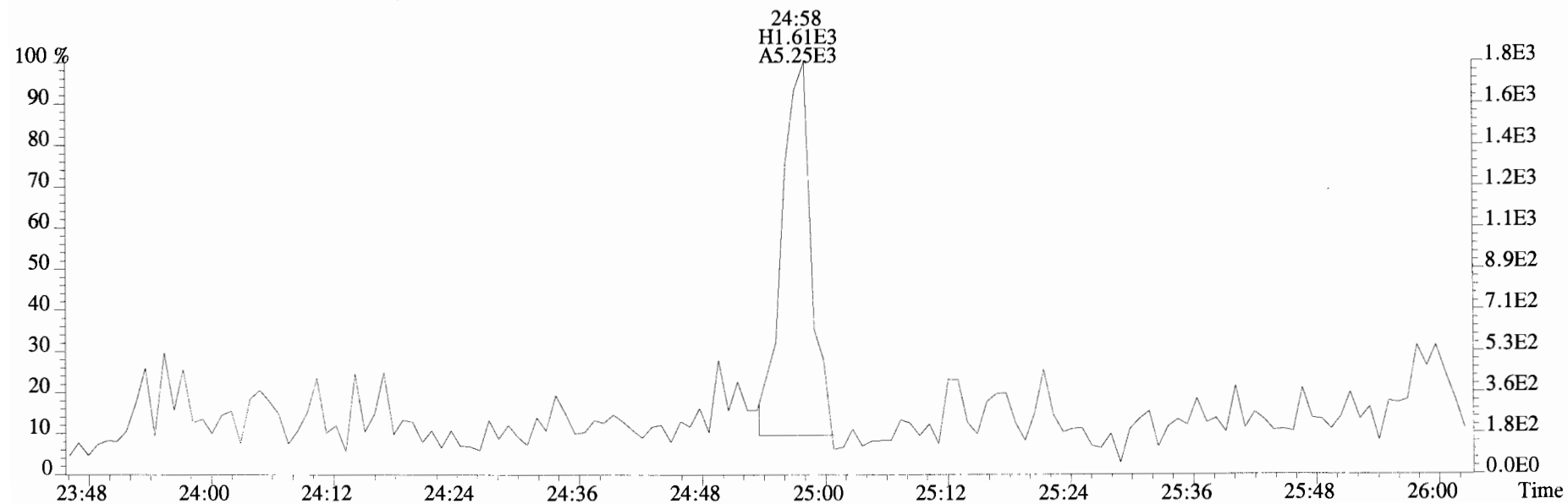
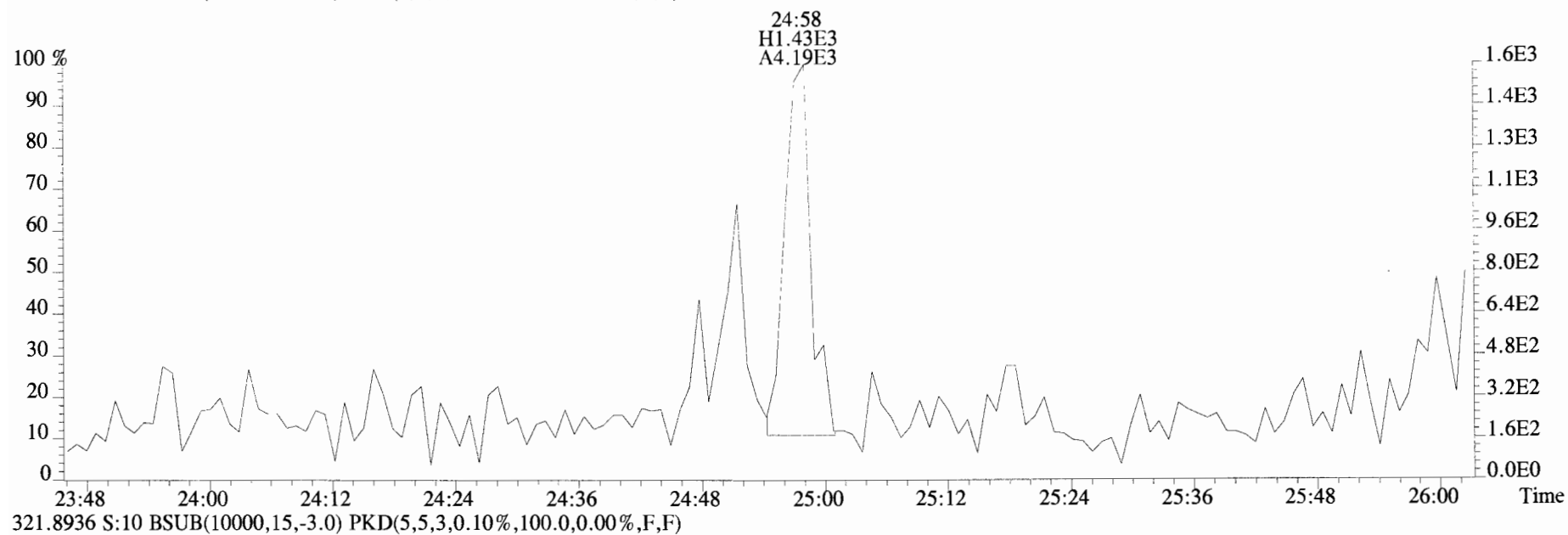
331.9368 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



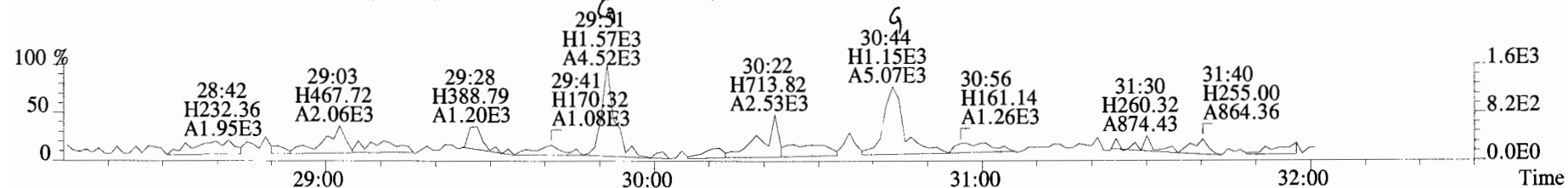
333.9339 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



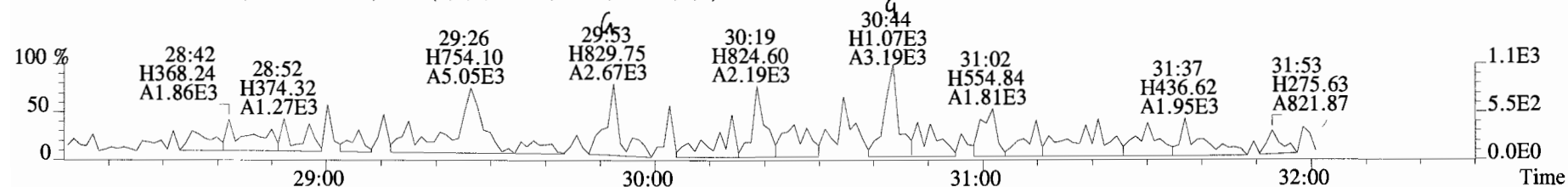
File:190712D1 #1-513 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
319.8965 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



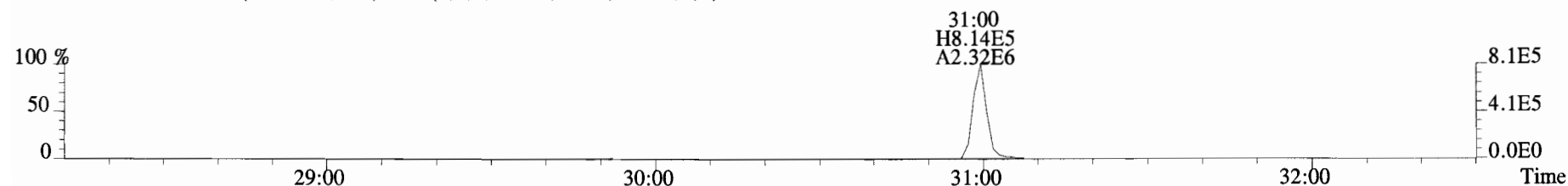
File:190712D1 #1-211 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
353.8576 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



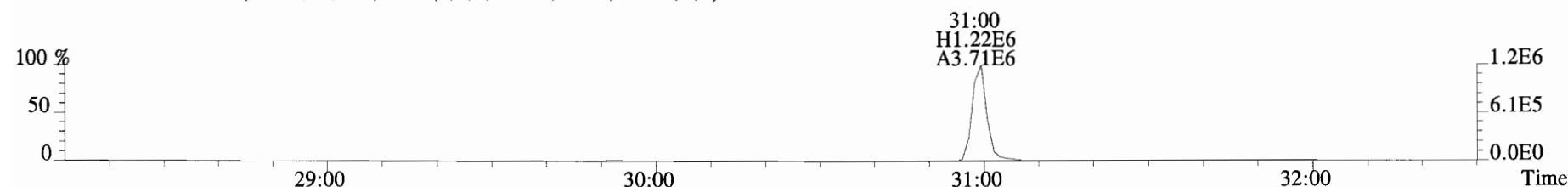
355.8546 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



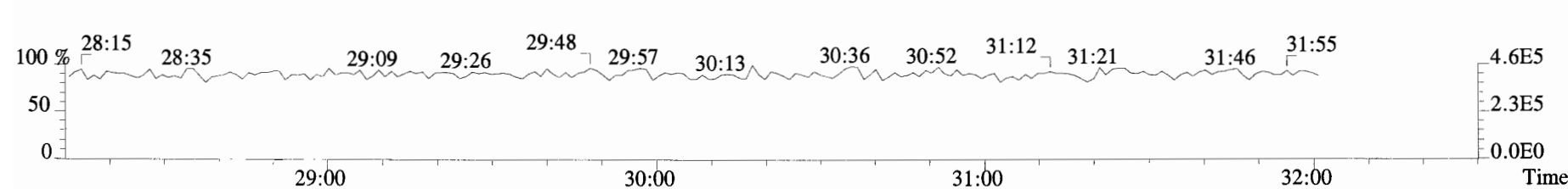
365.8978 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



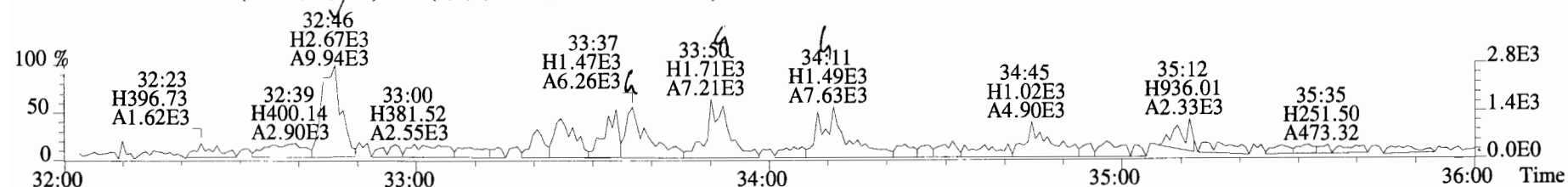
367.8949 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



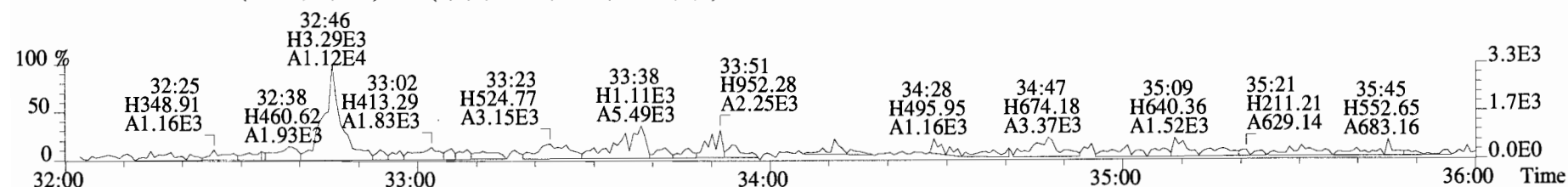
366.9792 S:10 F:2



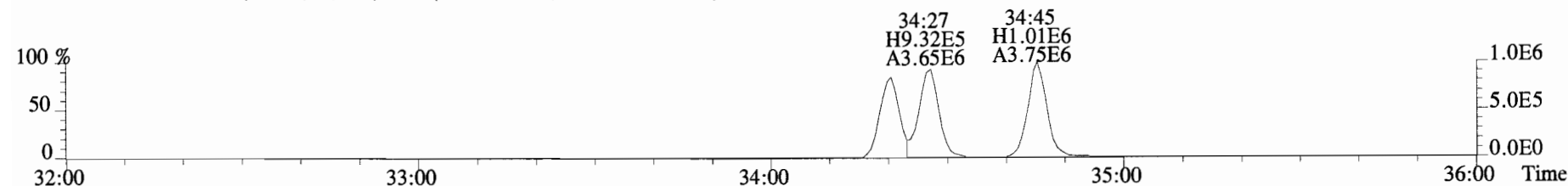
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
 389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



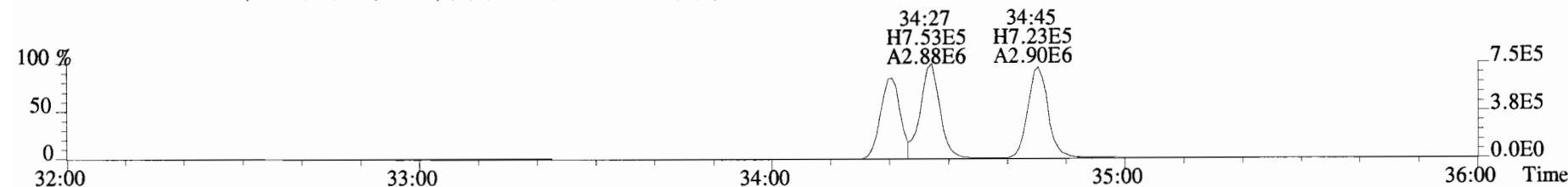
391.8127 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



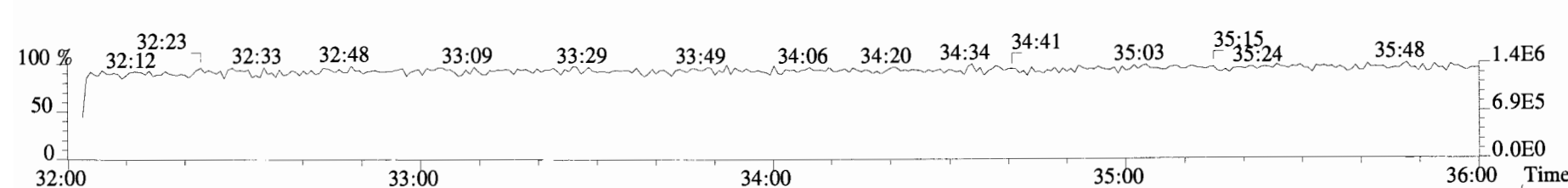
401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



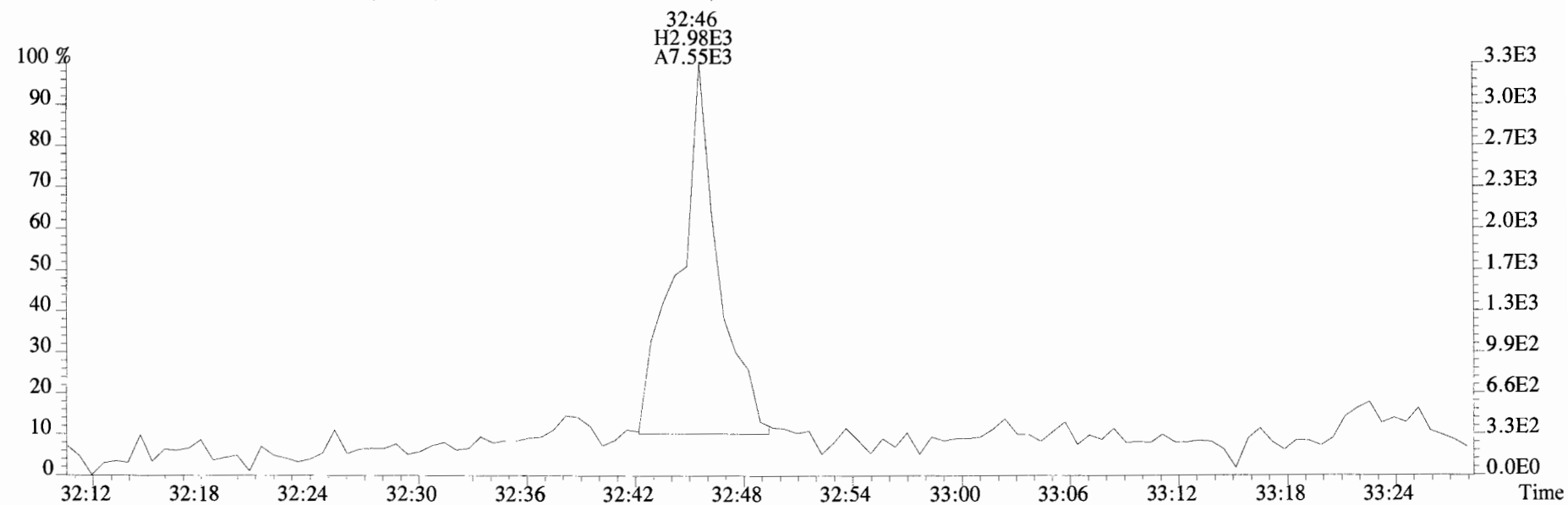
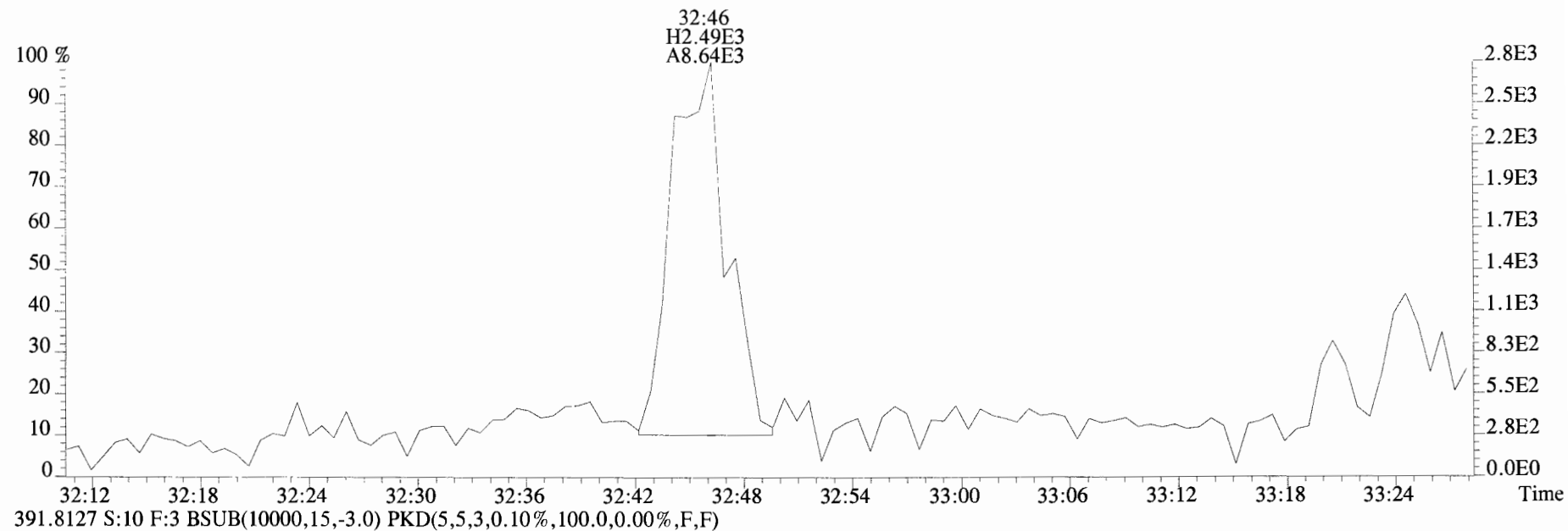
403.8530 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



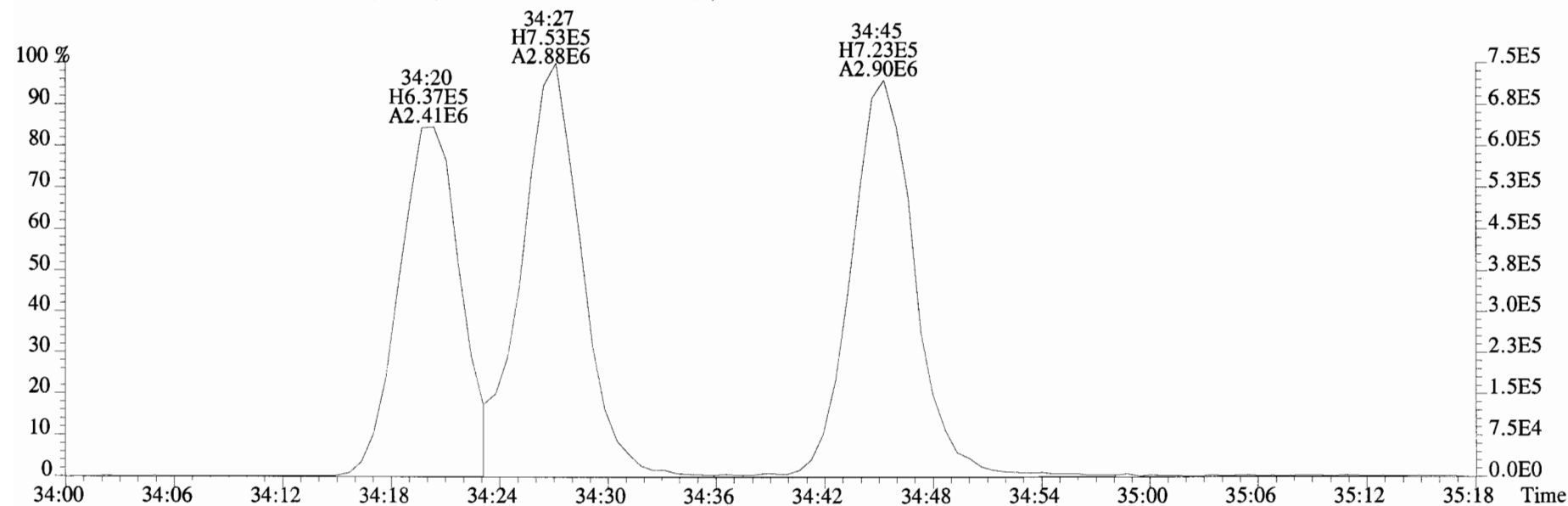
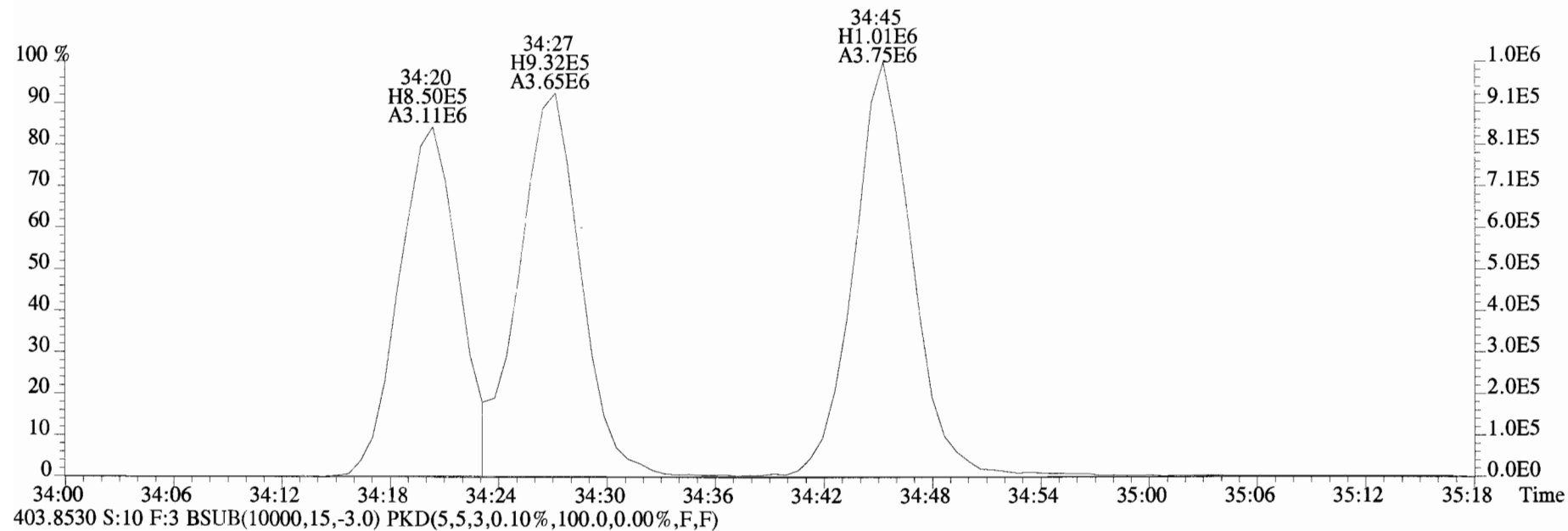
392.9760 S:10 F:3



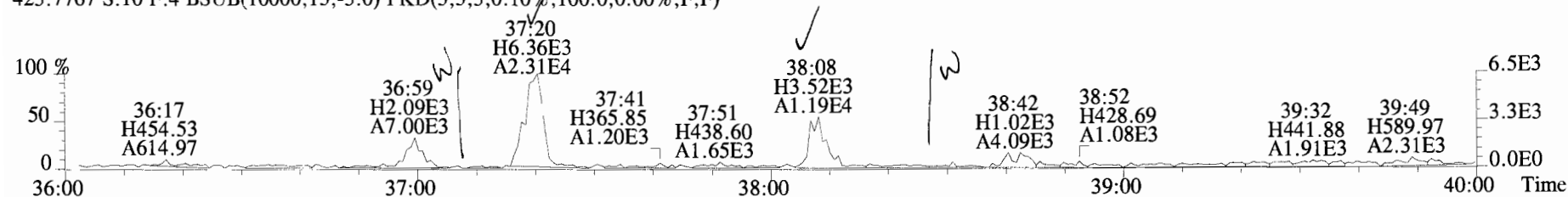
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



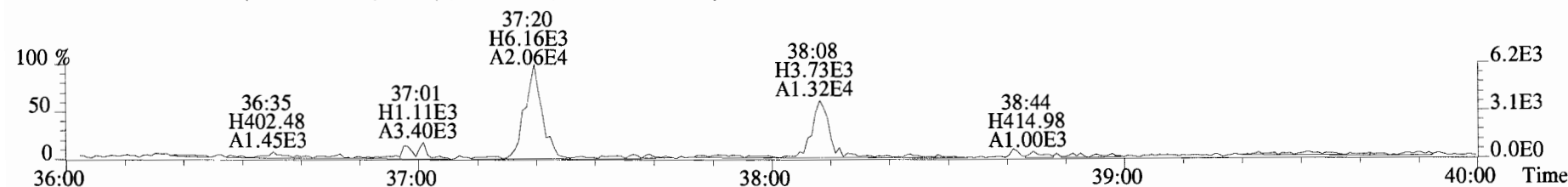
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



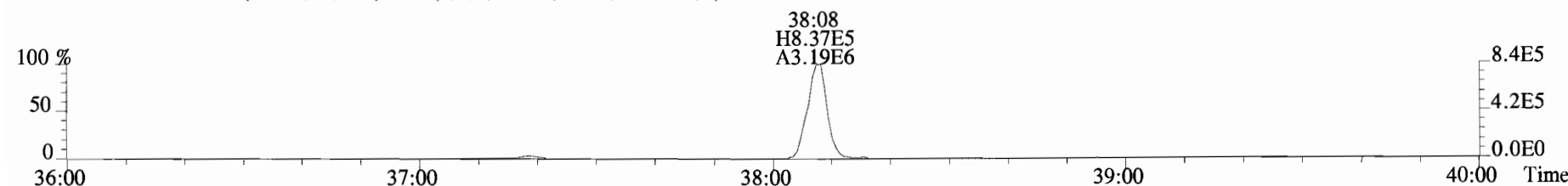
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



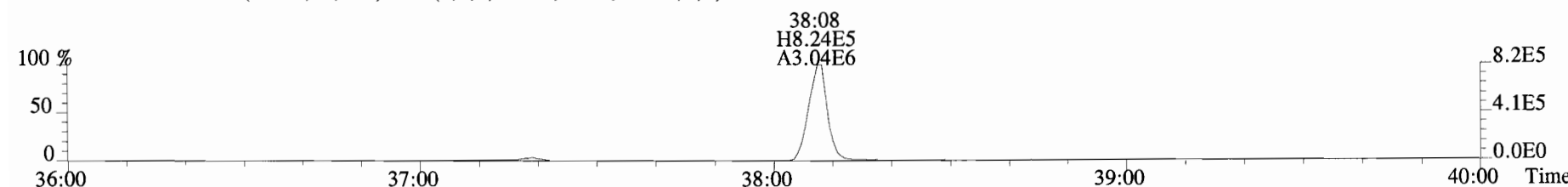
425.7737 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



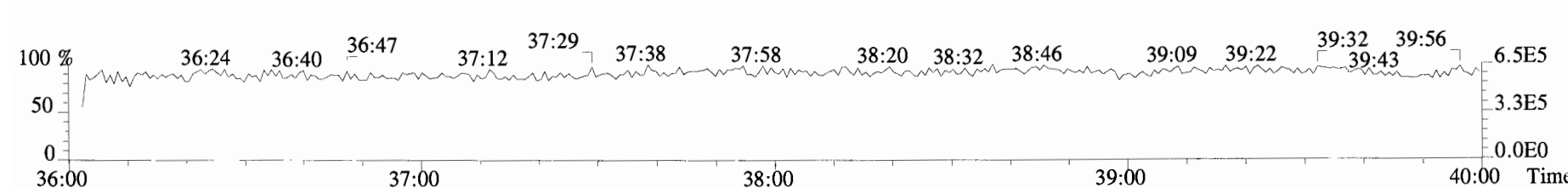
435.8169 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



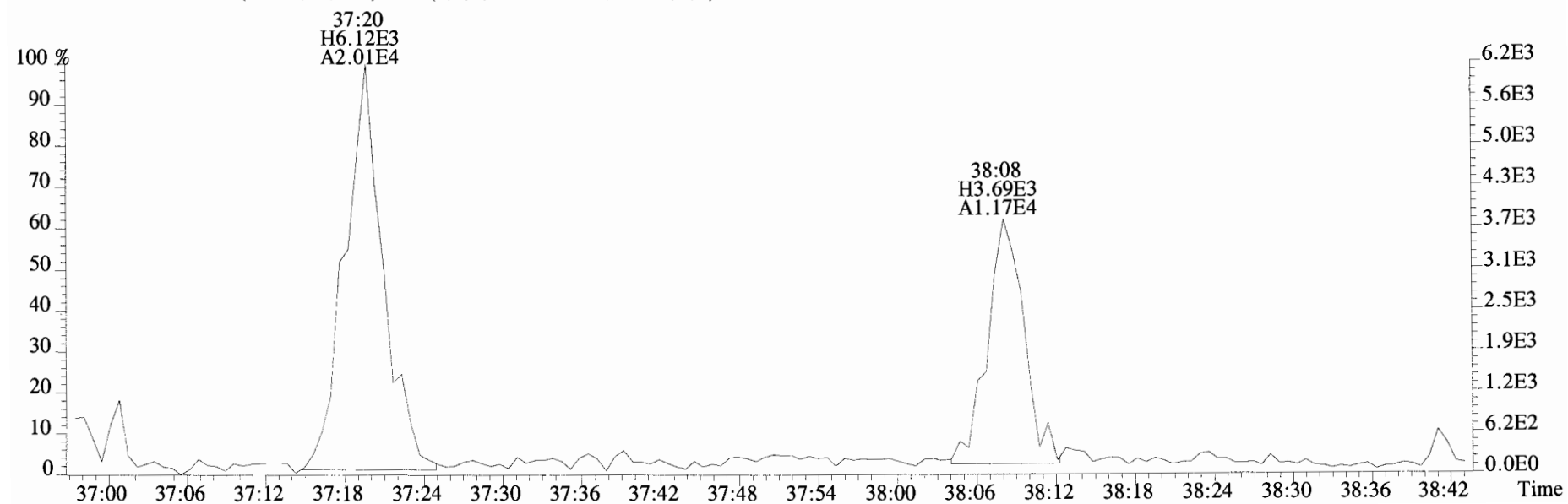
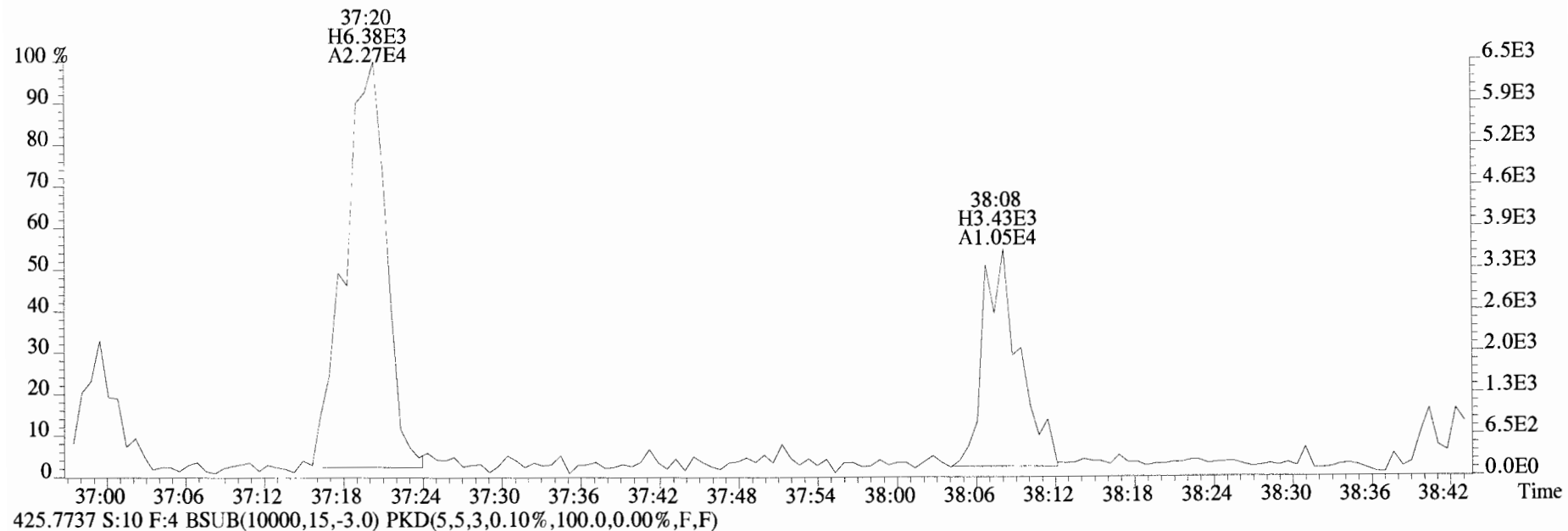
437.8140 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



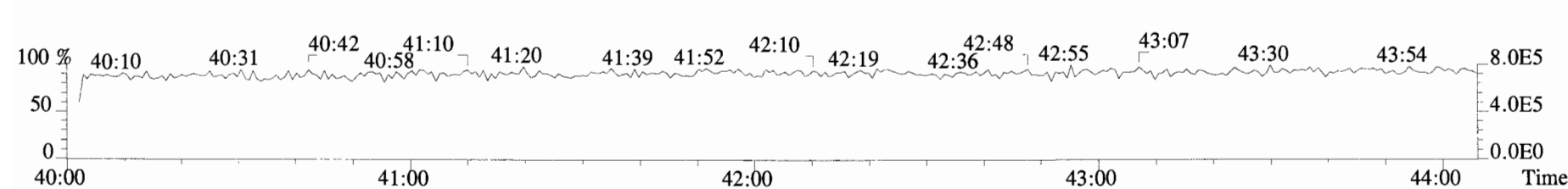
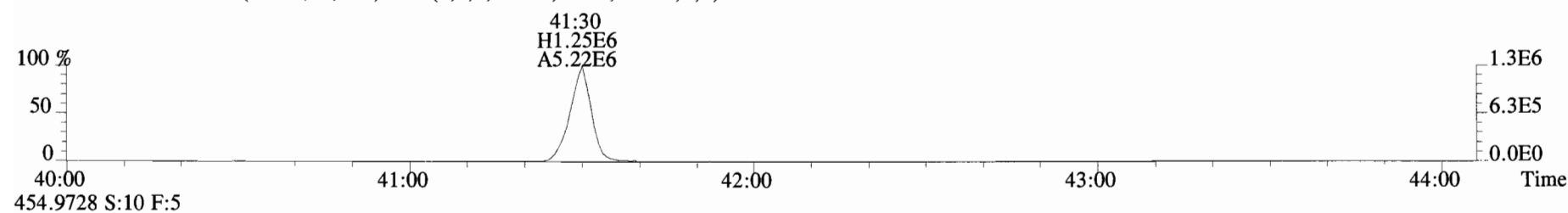
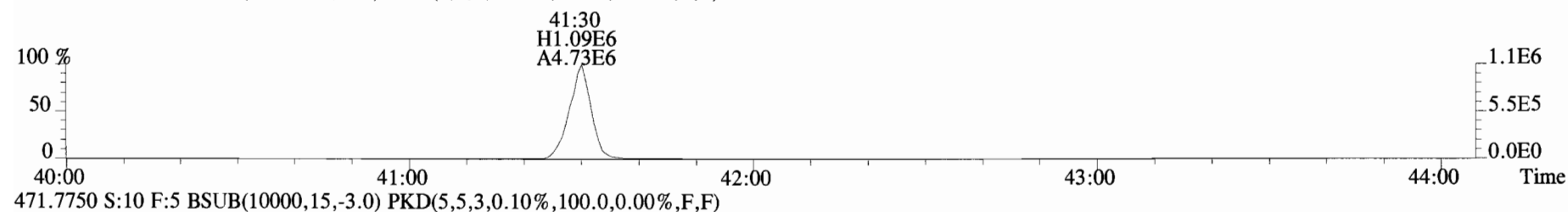
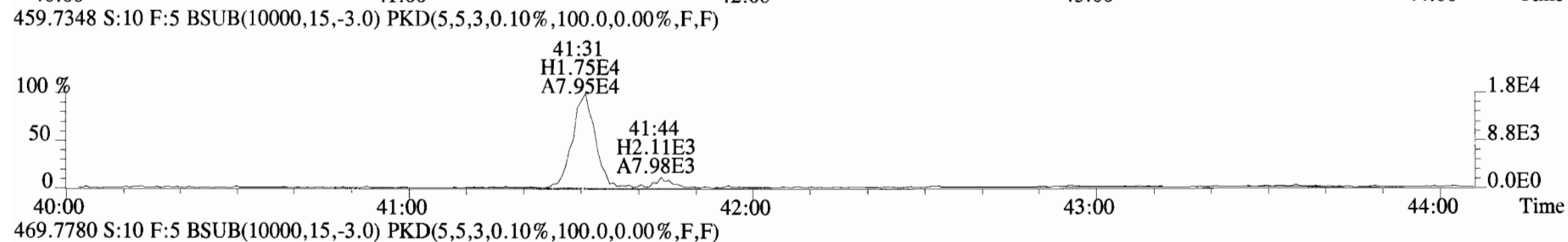
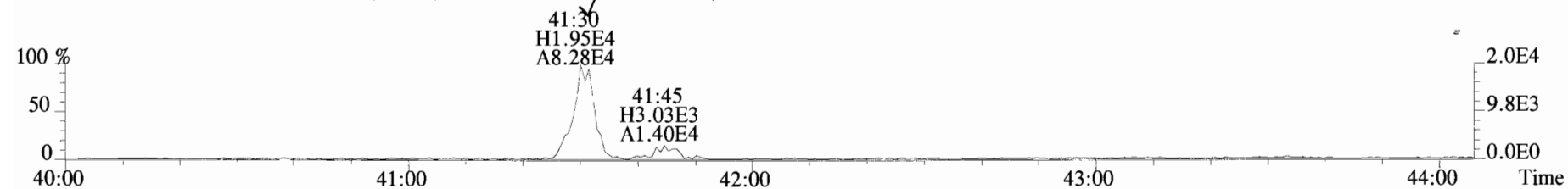
454.9728 S:10 F:4



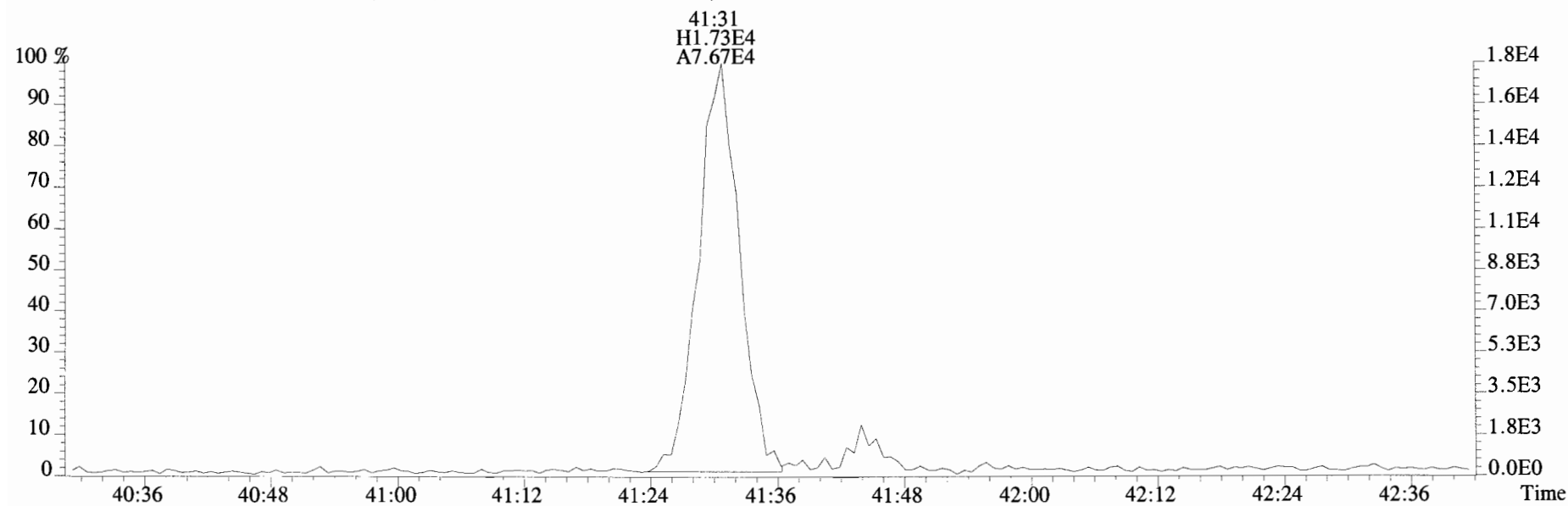
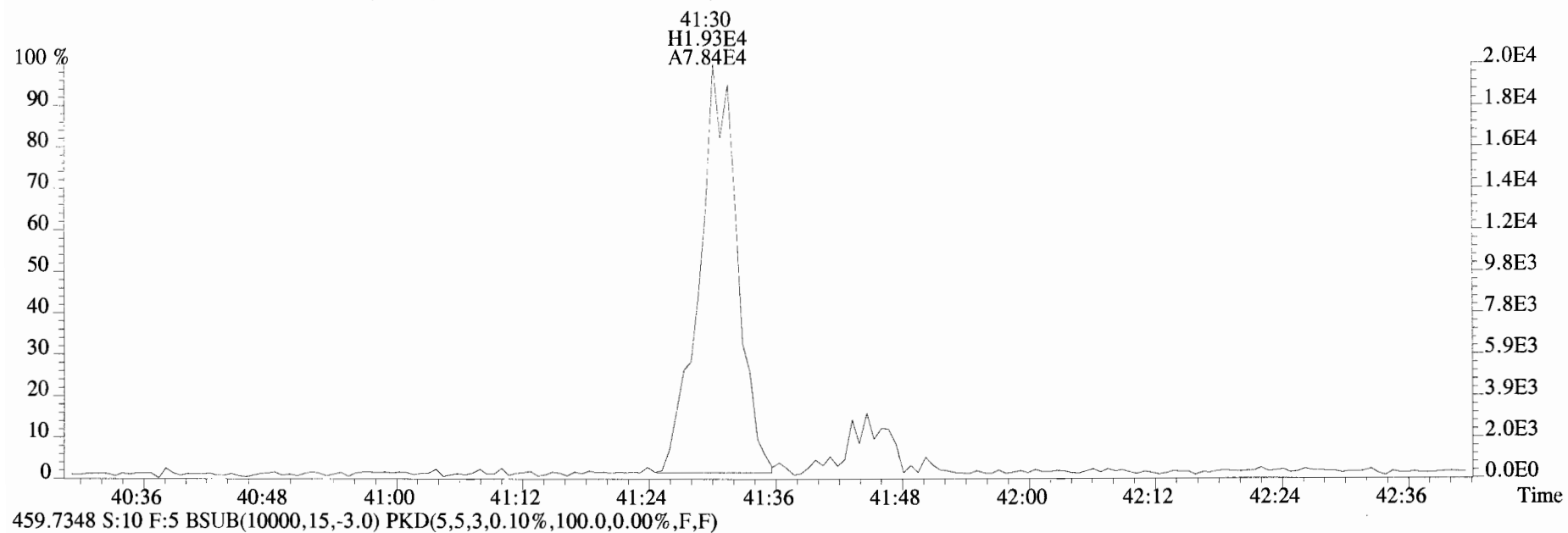
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



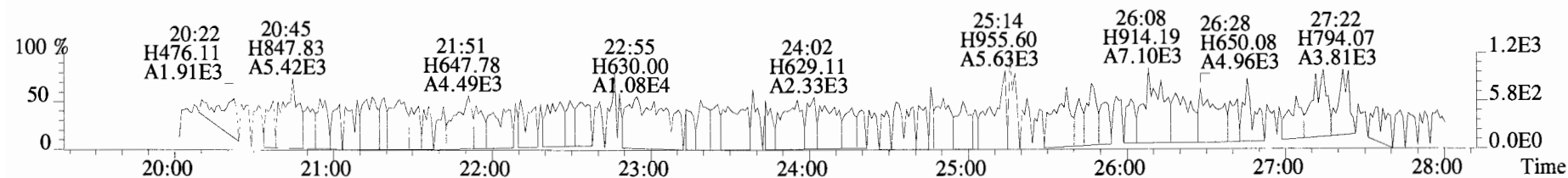
File:190712D1 #1-432 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



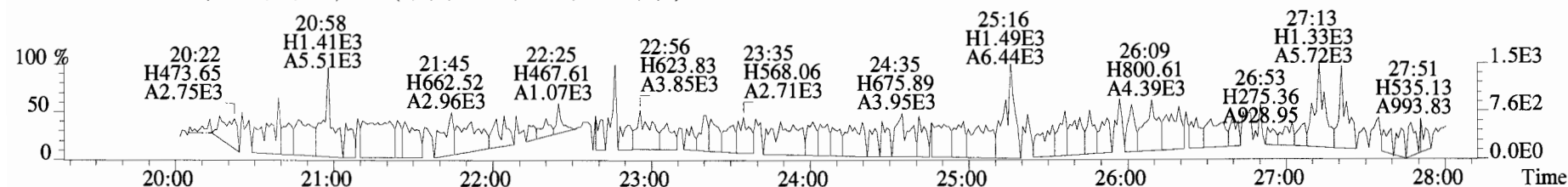
File:190712D1 #1-432 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



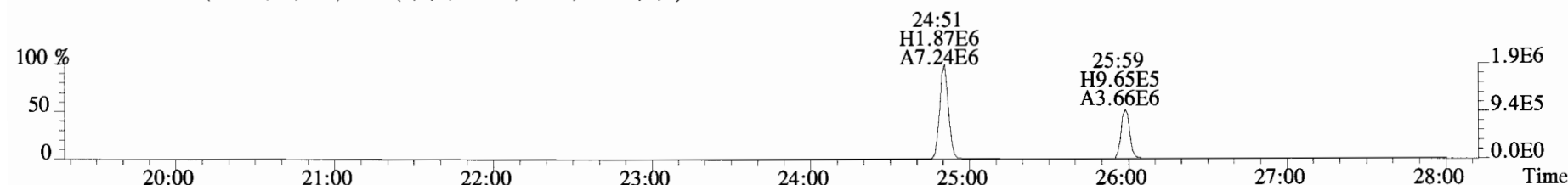
File:190712D1 #1-513 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
303.9016 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



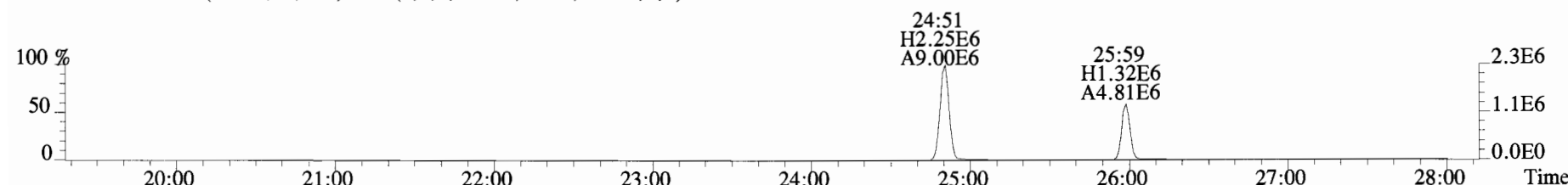
305.8987 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



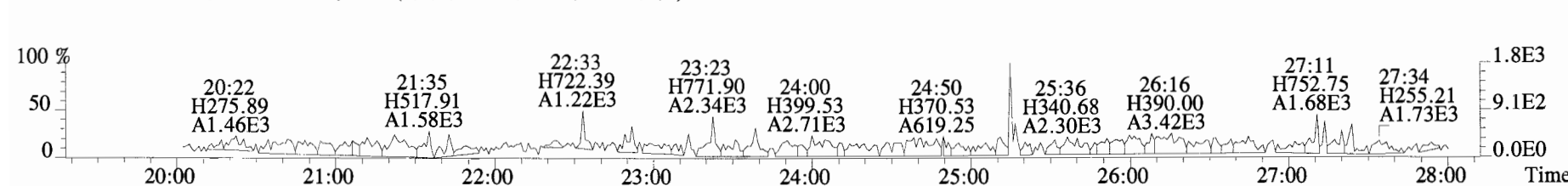
315.9419 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



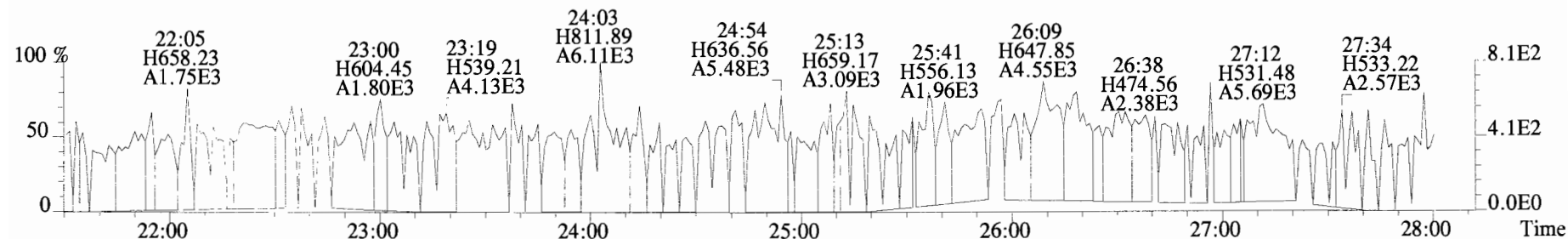
317.9389 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



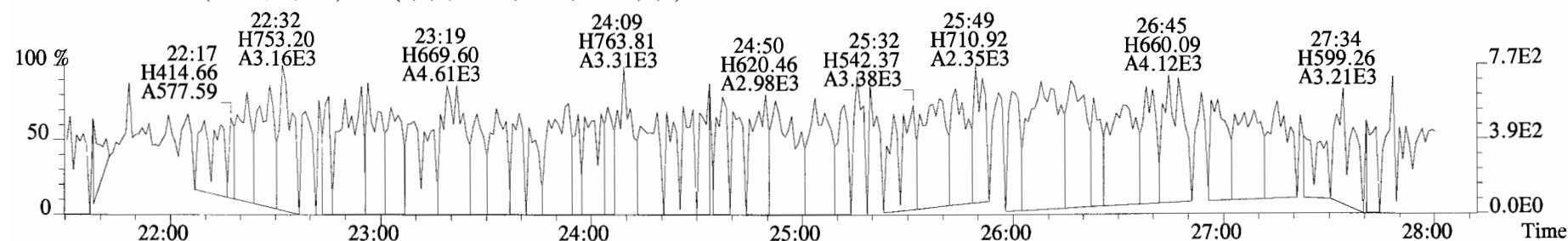
375.8364 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



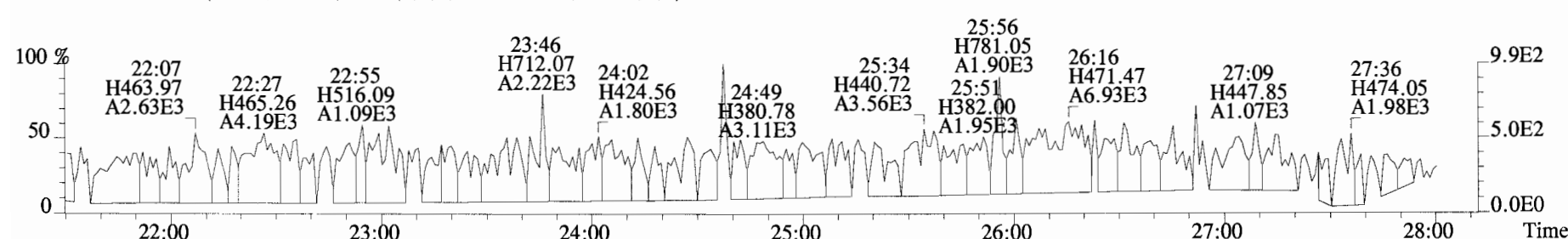
File:190712D1 #1-513 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
339.8597 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



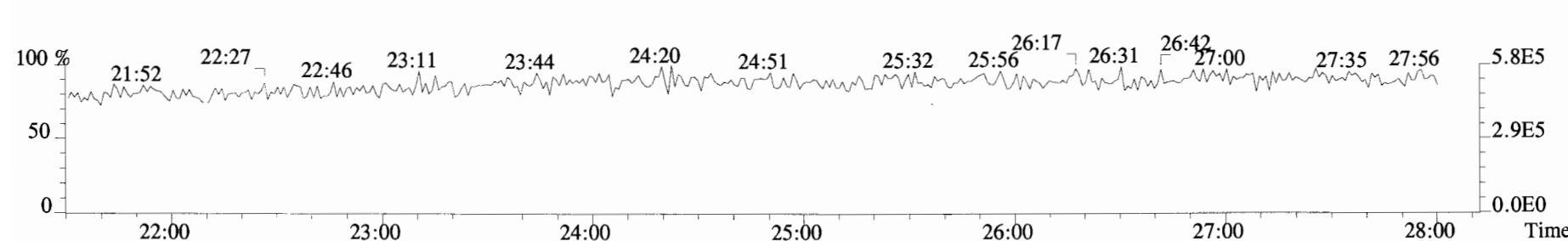
341.8568 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



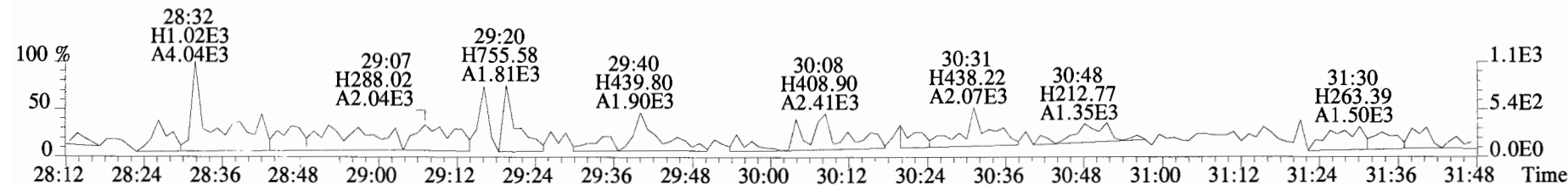
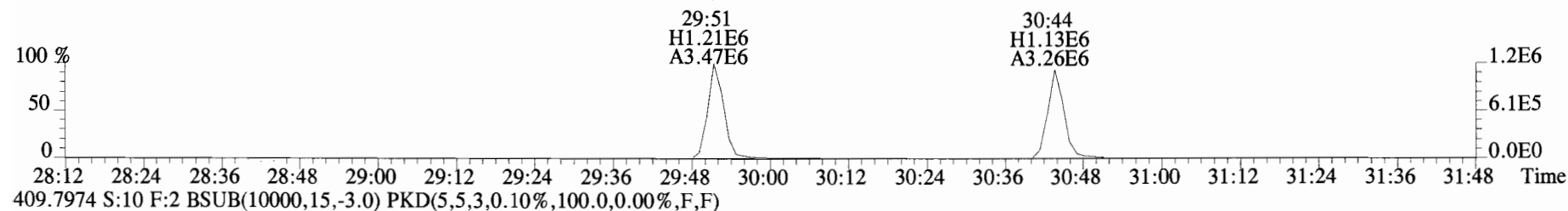
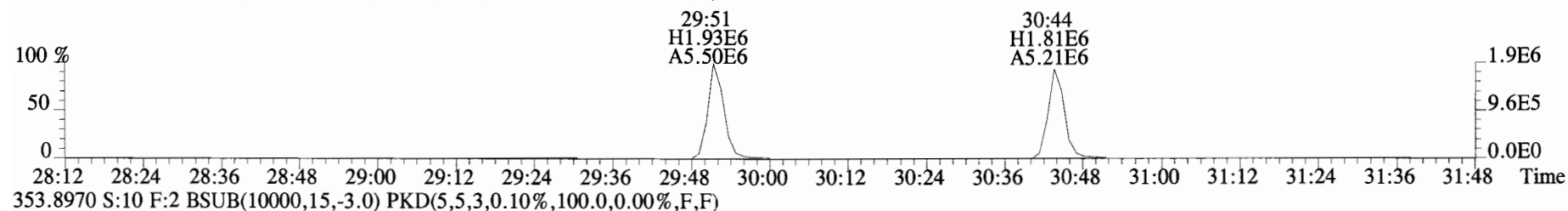
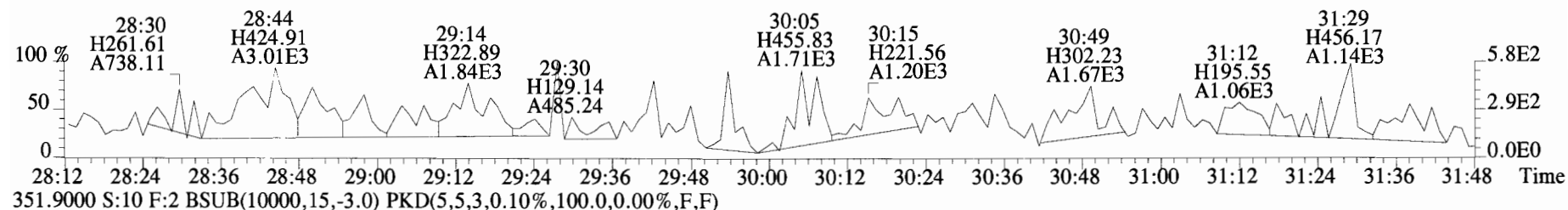
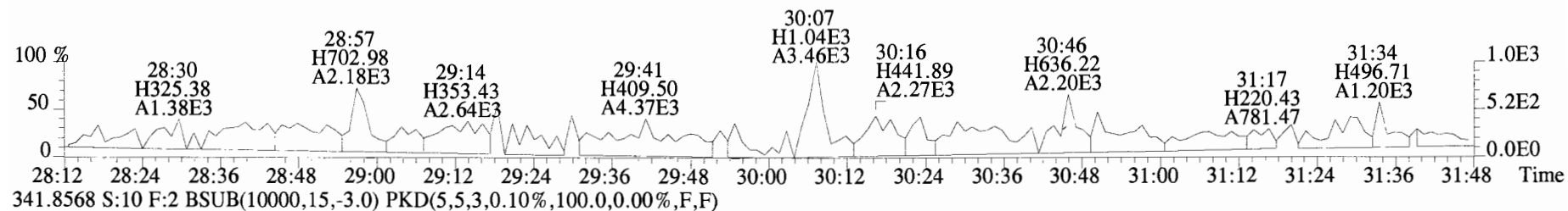
409.7974 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



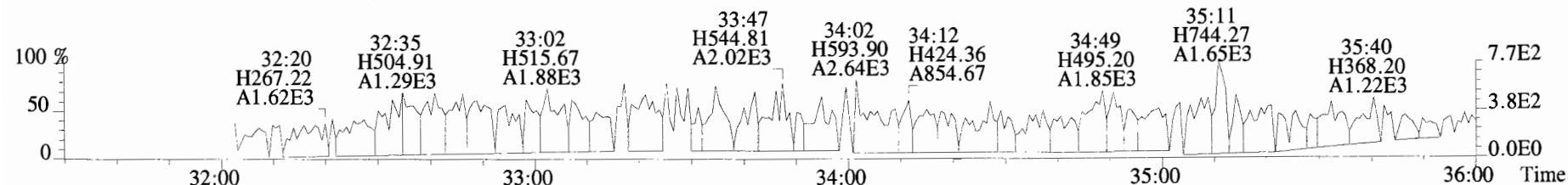
316.9824 S:10



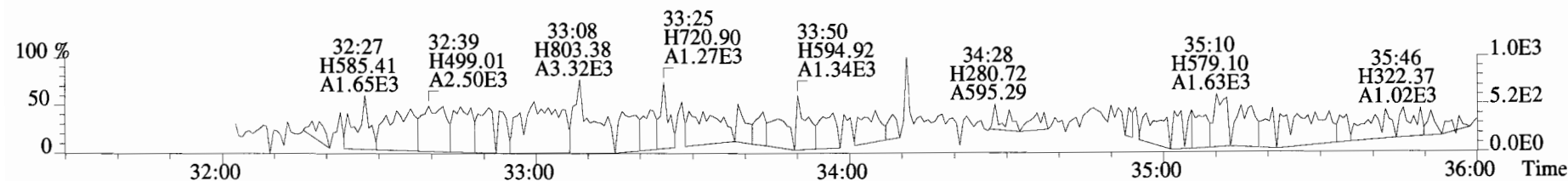
File:190712D1 #1-211 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
339.8597 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



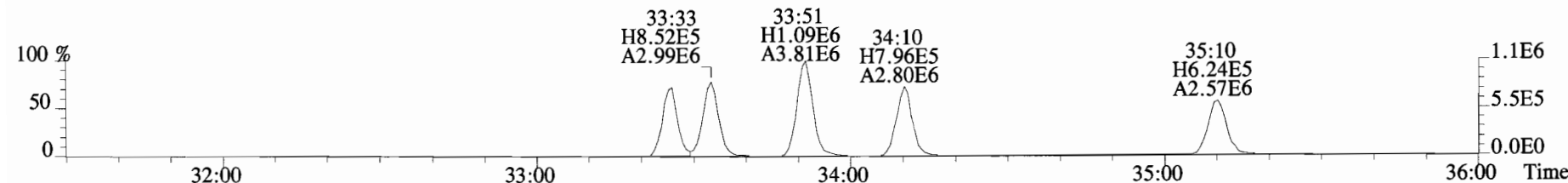
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
 373.8207 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



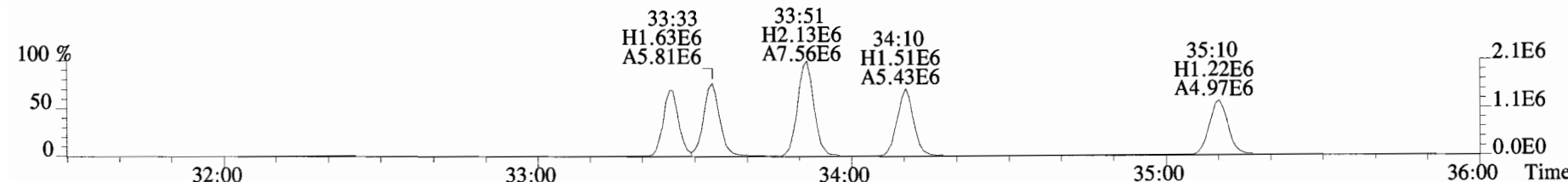
375.8178 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



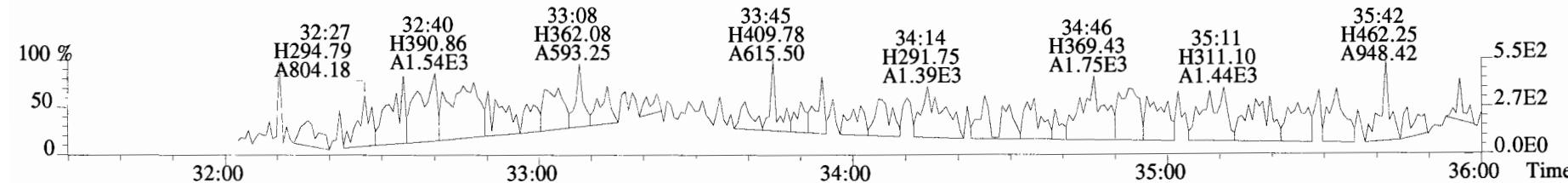
383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



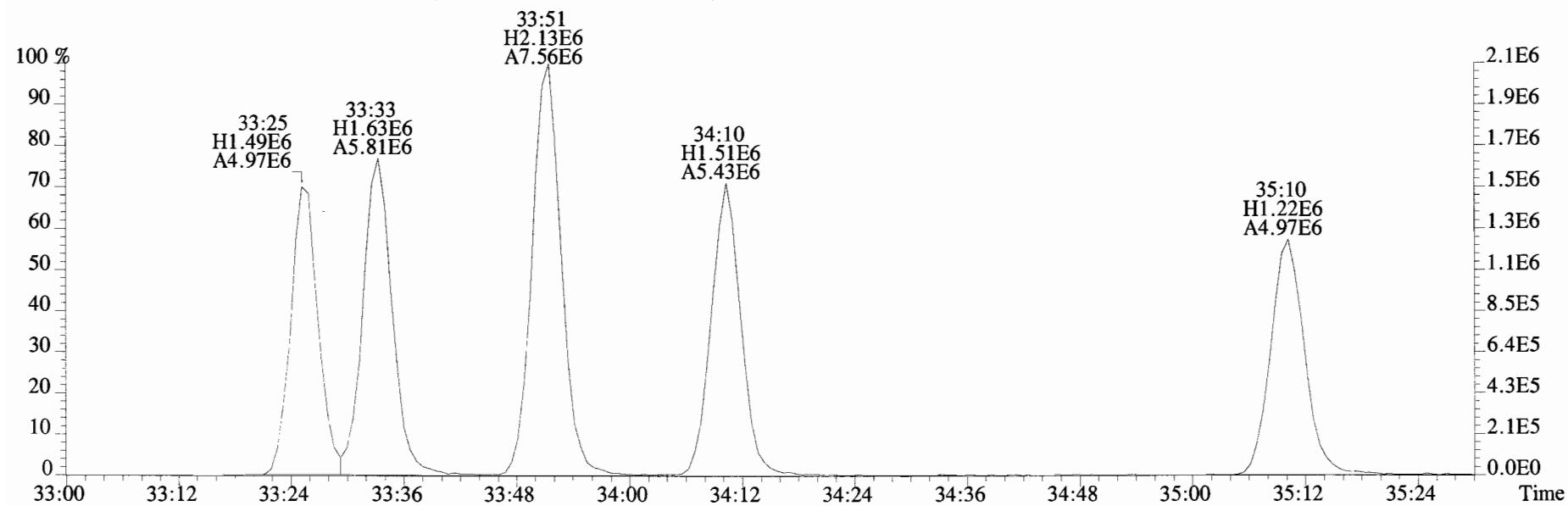
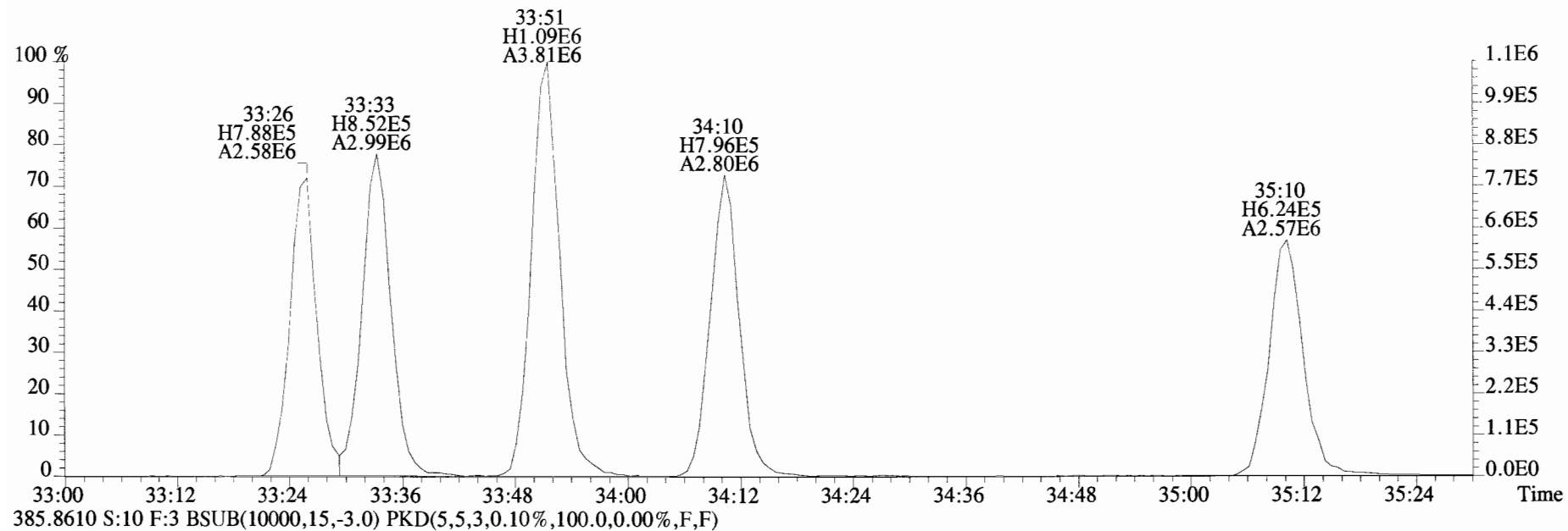
385.8610 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



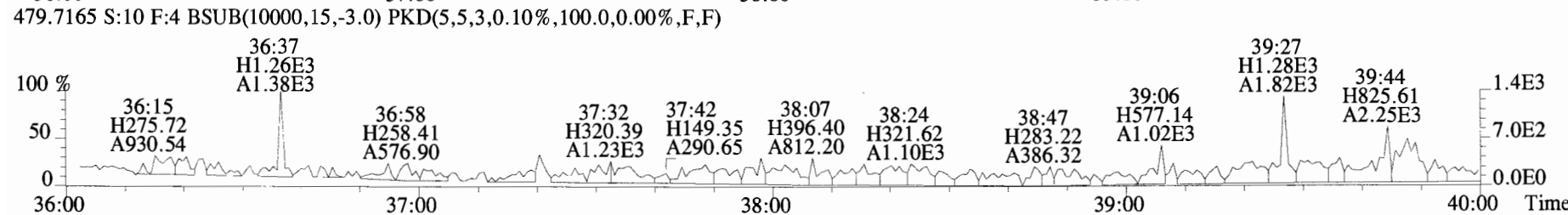
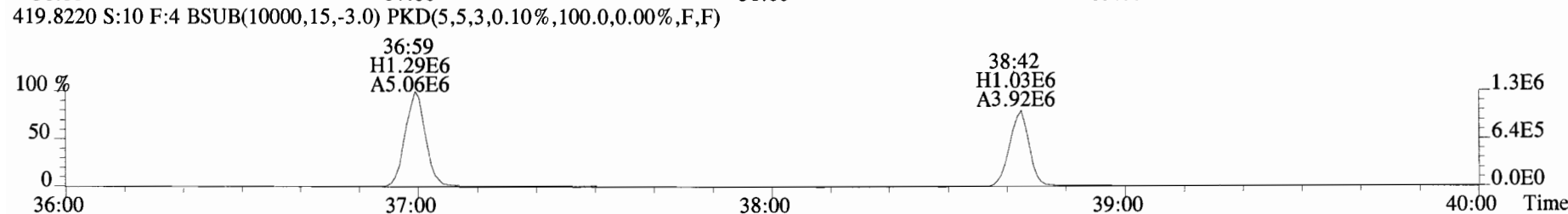
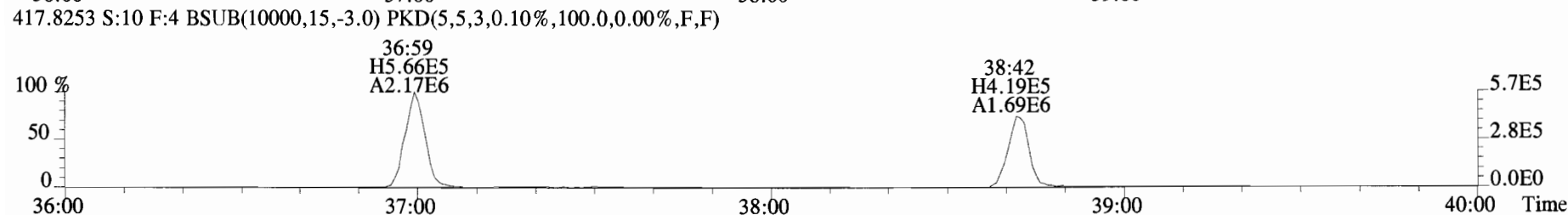
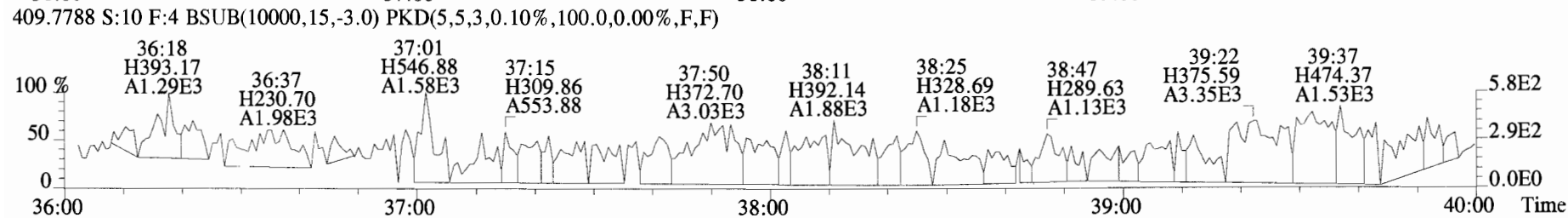
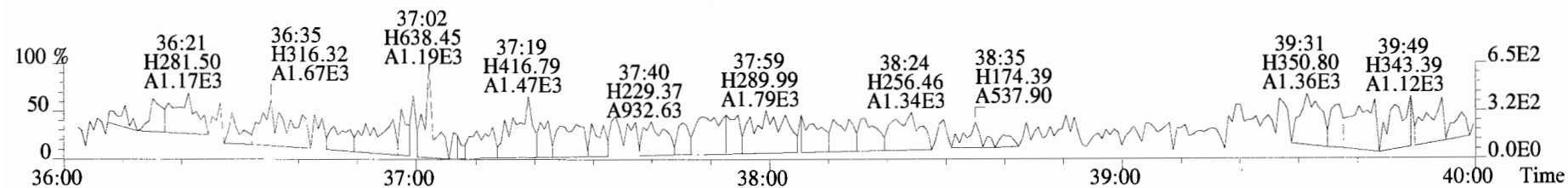
445.7555 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



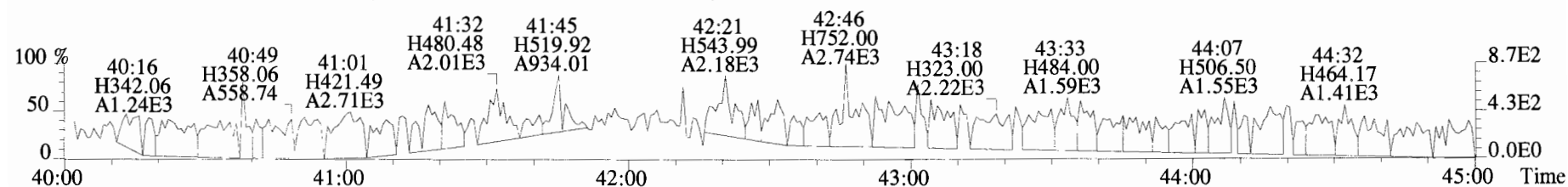
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



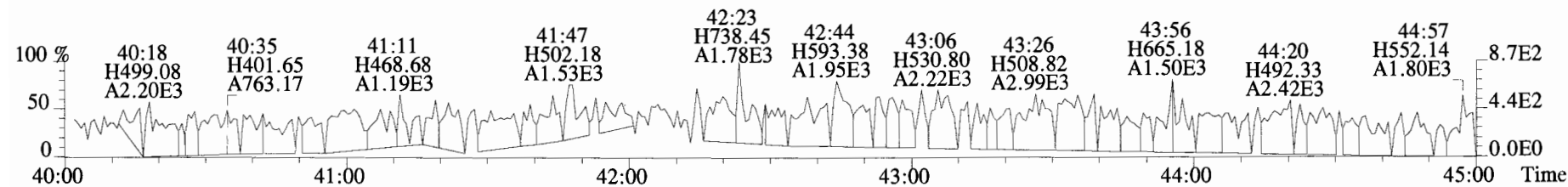
File:190712D1 #1-355 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
407.7818 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



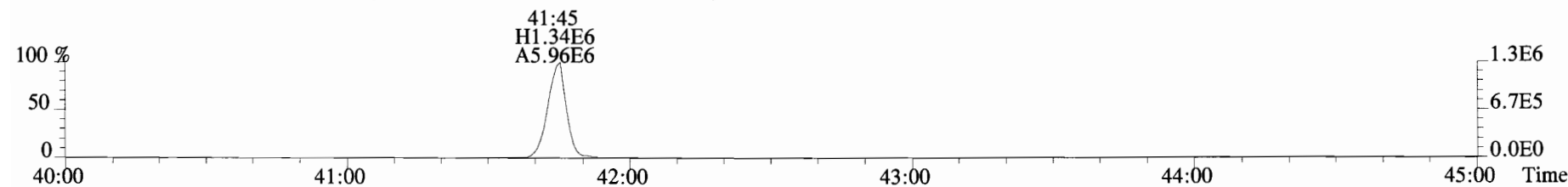
File:190712D1 #1-432 Acq:12-JUL-2019 20:44:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text: Vista Analytical Laboratory VG7 Text:1901246-13RE1 T4-PDI2019-SC19-190521-03-05 7.38 Exp:OCDD_DB5
 441.7428 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



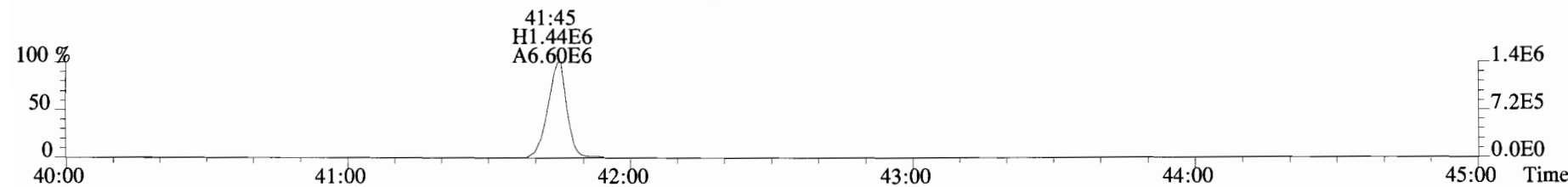
443.7398 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



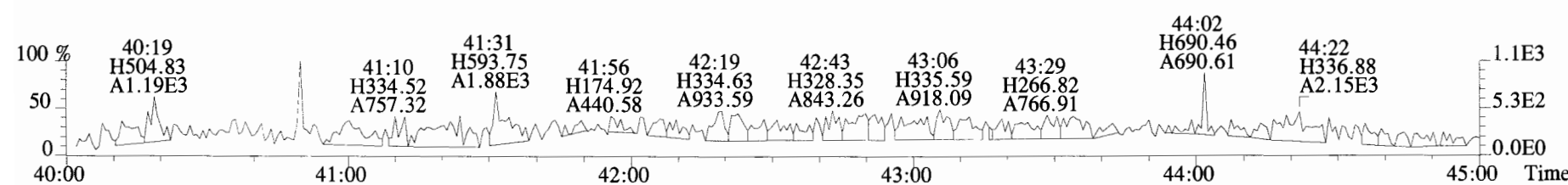
453.7831 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC19-1905217 Filename: 190712D1 S:11 Acq:12-JUL-19 21:32:20
Lab ID: 1901246-14RE1 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 4.999

ConCal: ST190712D1-1
EndCAL: NA

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Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	* n	0.90	NotF η	*		157	2.5	0.137	Total Tetra-Dioxins	*	*		157	0.137
1,2,3,7,8-PeCDD	*	* n	0.87	NotF η	*		183	2.5	0.133	Total Penta-Dioxins	*	*		183	0.133
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF η	*		173	2.5	0.227	Total Hexa-Dioxins	*	*		173	0.227
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF η	*		173	2.5	0.230	Total Hepta-Dioxins	*	0.345		*	*
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF η	*		173	2.5	0.224	Total Tetra-Furans	*	*		149	0.0970
1,2,3,4,6,7,8-HpCDD	*	* n	0.99	NotF η	*		160	2.5	0.195	Total Penta-Furans	0.0000	0.0000		179	0.146
OCDD	3.12e+04	0.77 y	0.99	41:31	2.3208		*	2.5	*	Total Hexa-Furans	*	*		170	0.0944
										Total Hepta-Furans	*	*		118	0.0914
2,3,7,8-TCDF	*	* n	0.94	NotF η	*		149	2.5	0.0970						
1,2,3,7,8-PeCDF	*	* n	0.92	NotF η	*		179	2.5	0.152						
2,3,4,7,8-PeCDF	*	* n	0.96	NotF η	*		179	2.5	0.140						
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF η	*		170	2.5	0.0869						
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF η	*		170	2.5	0.0888						
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF η	*		170	2.5	0.0878						
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF η	*		170	2.5	0.117						
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF η	*		118	2.5	0.0851						
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF η	*		118	2.5	0.0983						
OCDF	*	* n	0.94	NotF η	*		145	2.5	0.194						
IS	13C-2,3,7,8-TCDD	7.52e+06	0.80 y	1.11	26:42	304.69				Rec			Qual		
IS	13C-1,2,3,7,8-PeCDD	7.18e+06	0.62 y	0.98	30:59	329.45				76.2					
IS	13C-1,2,3,4,7,8-HxCDD	6.40e+06	1.35 y	0.68	34:20	359.45				82.4					
IS	13C-1,2,3,6,7,8-HxCDD	6.96e+06	1.29 y	0.84	34:27	313.99				89.8					
IS	13C-1,2,3,7,8,9-HxCDD	7.34e+06	1.28 y	0.81	34:45	342.92				78.5					
IS	13C-1,2,3,4,6,7,8-HpCDD	6.20e+06	1.01 y	0.69	38:08	343.31				85.7					
IS	13C-OCDD	1.09e+07	0.90 y	0.62	41:30	661.89				85.8					
IS	13C-2,3,7,8-TCDF	1.04e+07	0.79 y	1.05	25:59	272.00				82.7					
IS	13C-1,2,3,7,8-PeCDF	1.02e+07	1.61 y	0.95	29:52	294.08				68.0					
IS	13C-2,3,4,7,8-PeCDF	9.96e+06	1.58 y	0.94	30:44	293.15				73.5					
IS	13C-1,2,3,4,7,8-HxCDF	8.42e+06	0.50 y	0.86	33:26	372.79				73.3					
IS	13C-1,2,3,6,7,8-HxCDF	9.63e+06	0.52 y	1.02	33:33	357.74				93.2					
IS	13C-2,3,4,6,7,8-HxCDF	9.15e+06	0.51 y	0.95	34:10	364.72				89.4					
IS	13C-1,2,3,7,8,9-HxCDF	8.56e+06	0.52 y	0.87	35:10	374.48				91.2					
IS	13C-1,2,3,4,6,7,8-HpCDF	7.23e+06	0.44 y	0.81	36:59	339.59				93.6					
IS	13C-1,2,3,4,7,8,9-HpCDF	5.59e+06	0.42 y	0.63	38:42	335.48				84.9					
IS	13C-OCDF	1.37e+07	0.88 y	0.78	41:45	663.07				83.9					
C/Up	37C1-2,3,7,8-TCDD	3.27e+06		1.22	26:43	120.42				82.9					
RS/RT	13C-1,2,3,4-TCDD	8.94e+06	0.81 y	1.00	26:09	400.06				75.3					
RS	13C-1,2,3,4-TCDF	1.45e+07	0.81 y	1.00	24:50	400.06									
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.05e+07	0.51 y	1.00	33:51	400.06									
											Integrations		Reviewed		
											by		by		
											Analyst:	DB	Analyst:	CT	
											Date:	7/25/19	Date:	08/08/19	

Totals class: HpCDD EMPC

Entry #: 25

Run: 16

File: 190712D1

S: 11 I: 1 F: 4

Acquired: 12-JUL-19 21:32:20

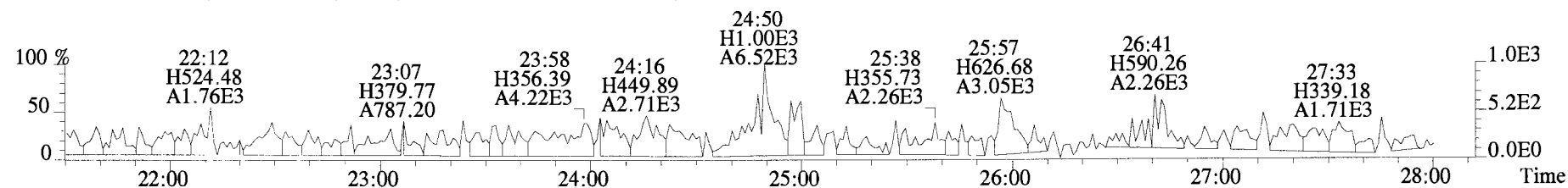
Processed: 15-JUL-19 11:00:46

Total Concentration: 0.34479

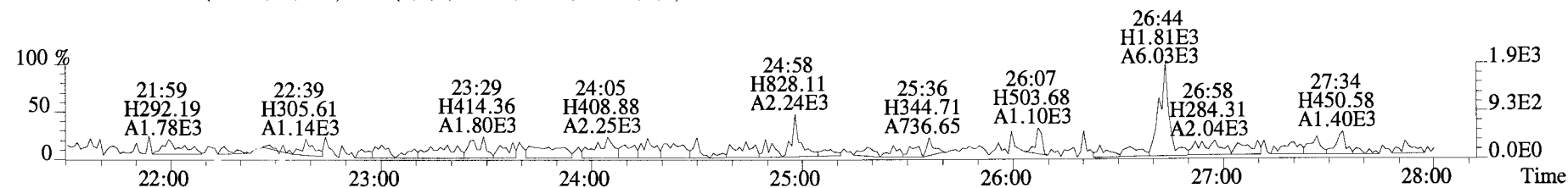
Unnamed Concentration: 0.345

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
37:20	2.695e+03	4.302e+03	0.63 n	5.287e+03	0.34479

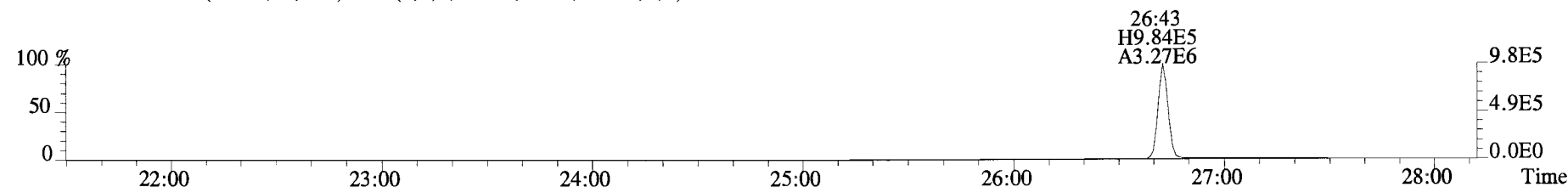
File:190712D1 #1-513 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
319.8965 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



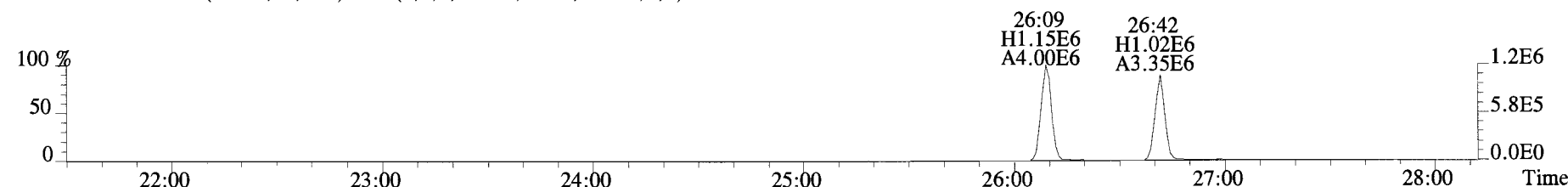
321.8936 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



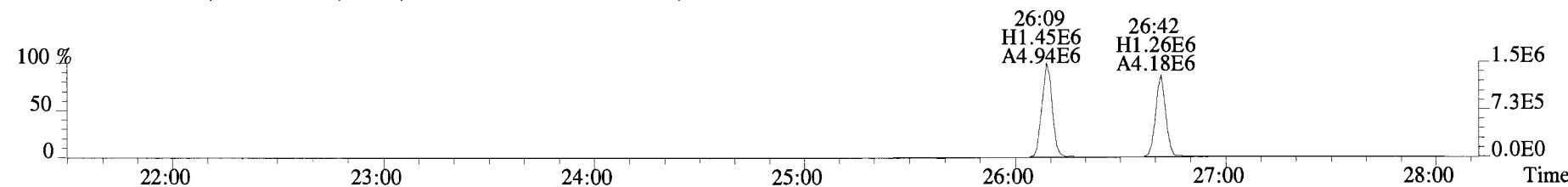
327.8847 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



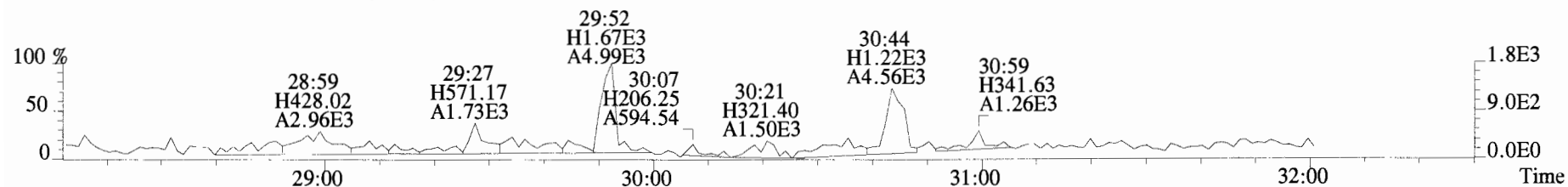
331.9368 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



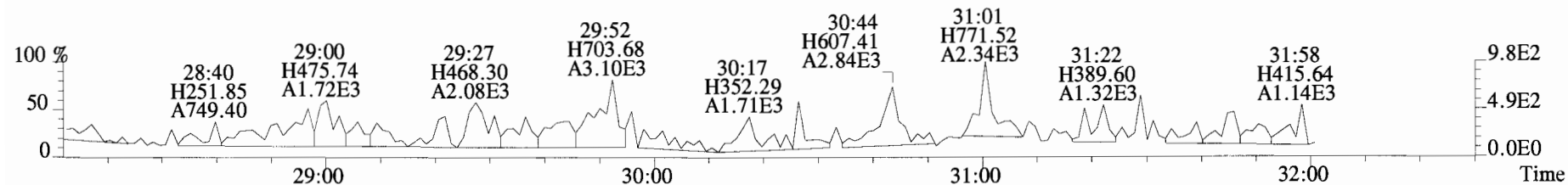
333.9339 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



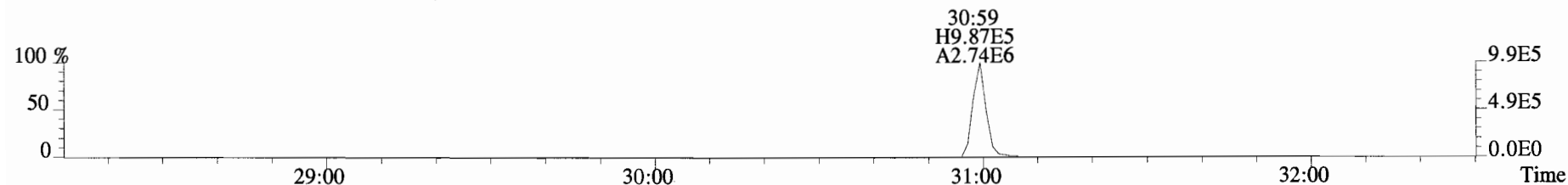
File:190712D1 #1-211 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



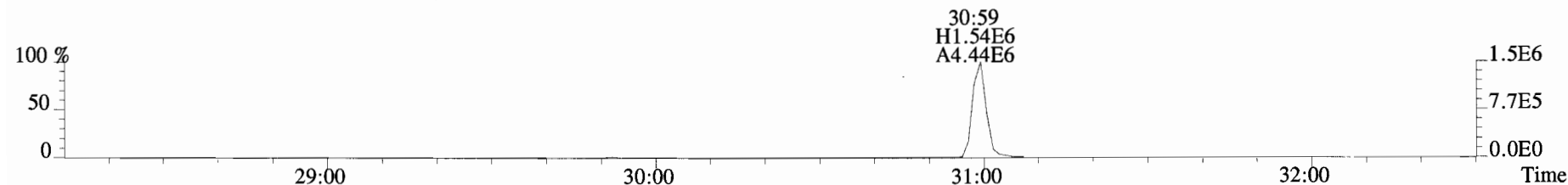
355.8546 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



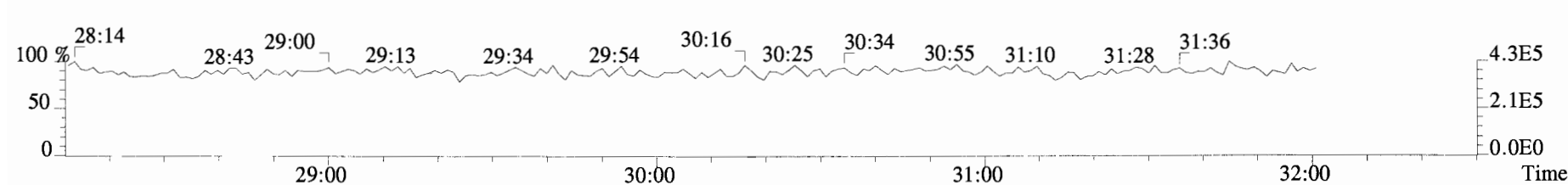
365.8978 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



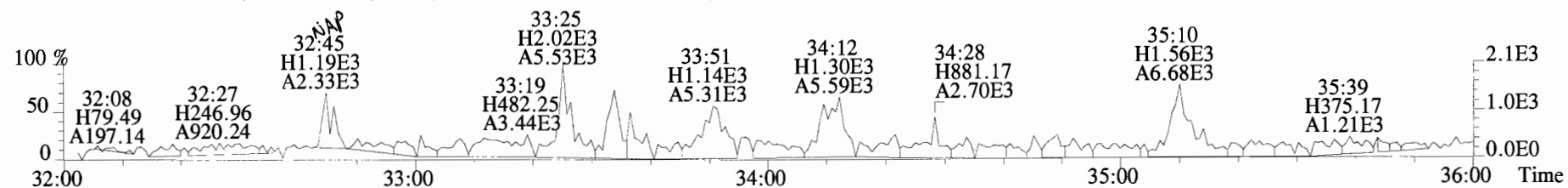
367.8949 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



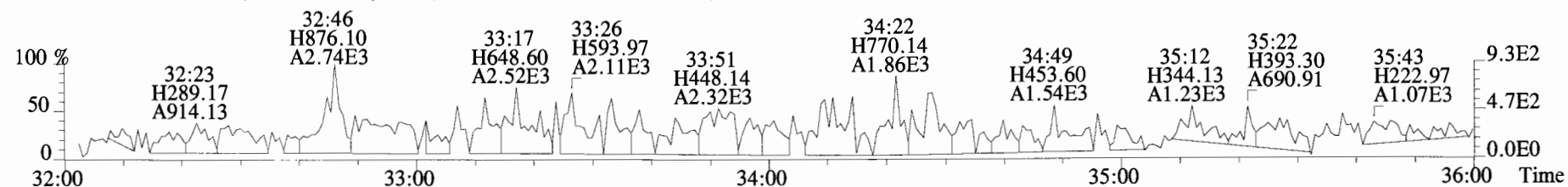
366.9792 S:11 F:2



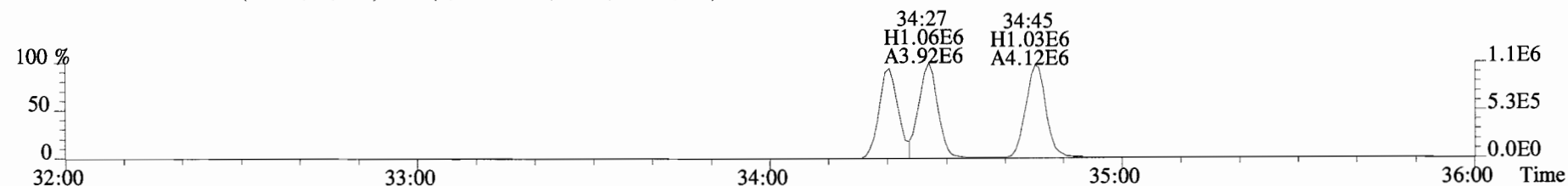
File:190712D1 #1-355 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
 389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



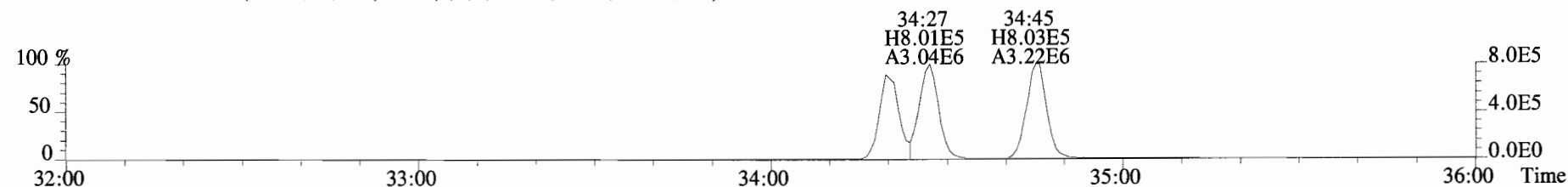
391.8127 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



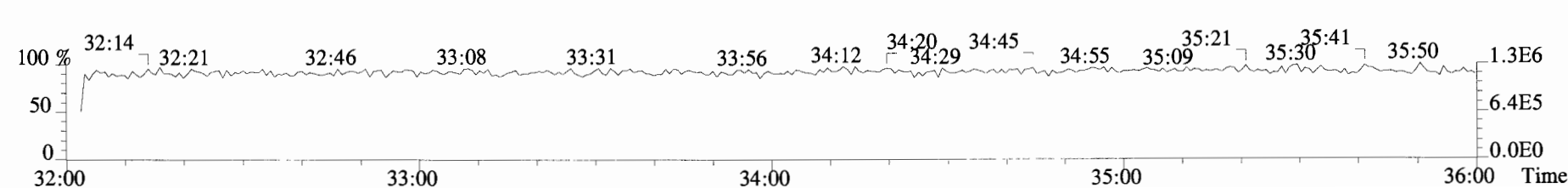
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



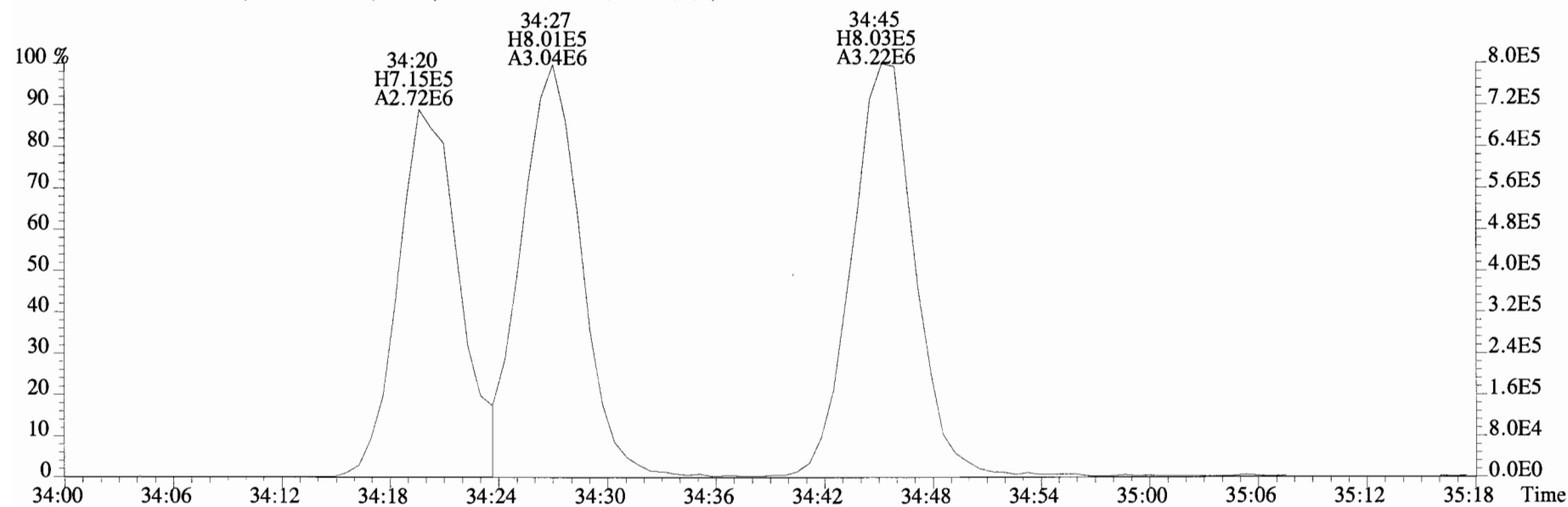
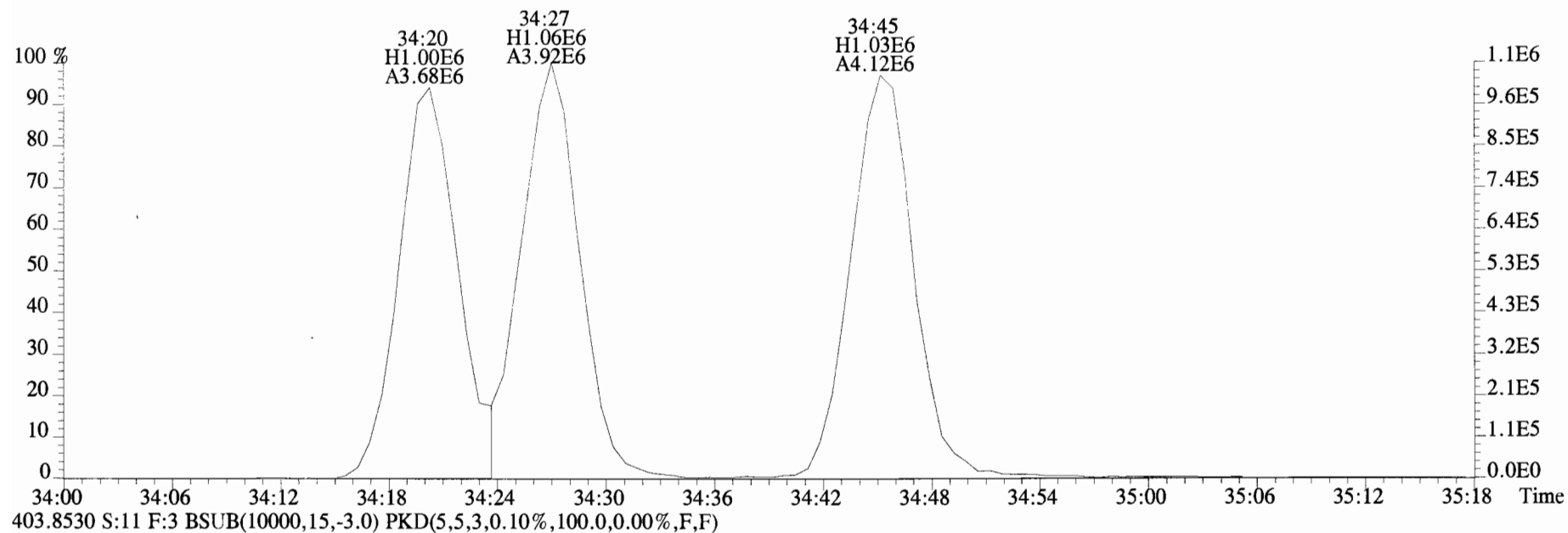
403.8530 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



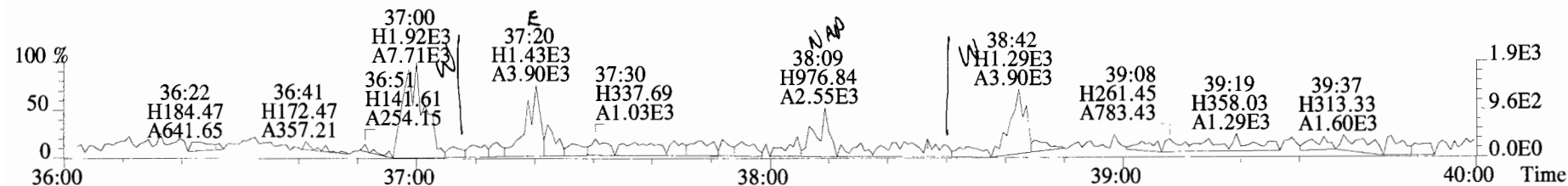
392.9760 S:11 F:3



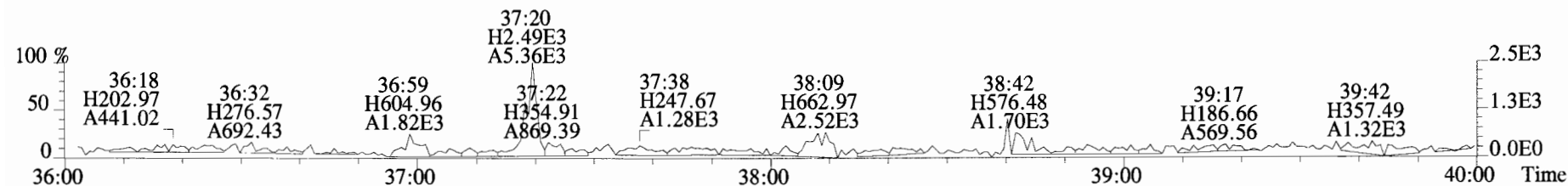
File:190712D1 #1-355 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



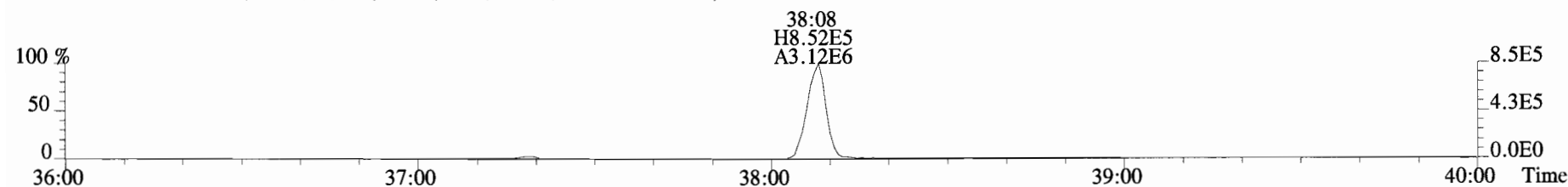
File:190712D1 #1-355 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



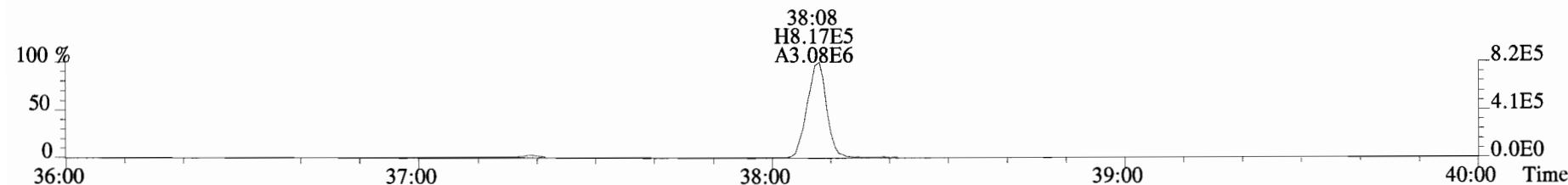
425.7737 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



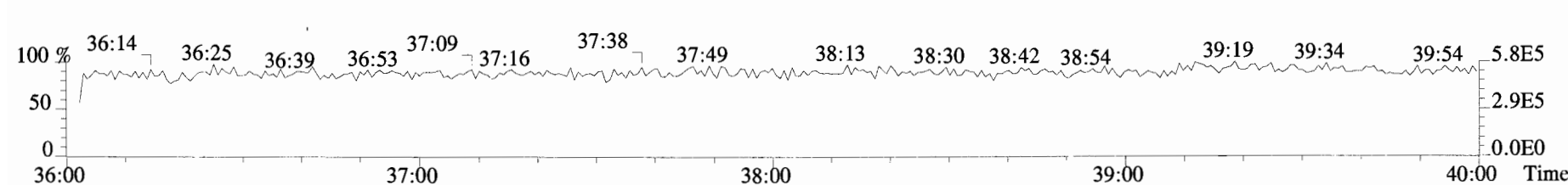
435.8169 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



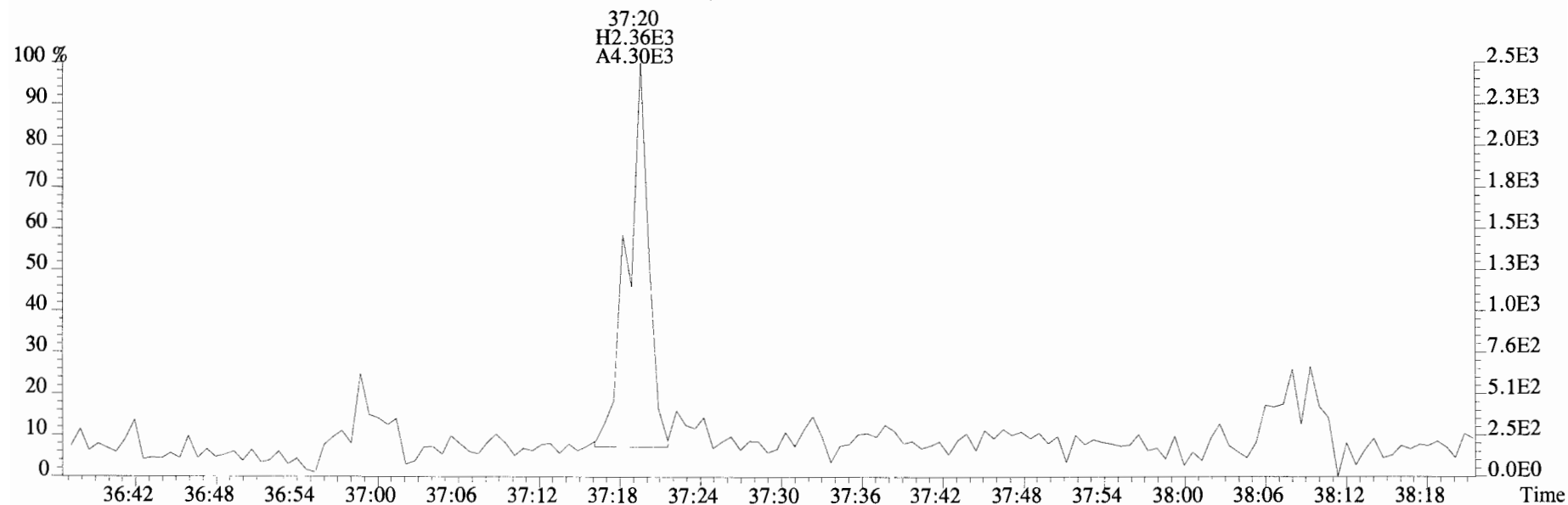
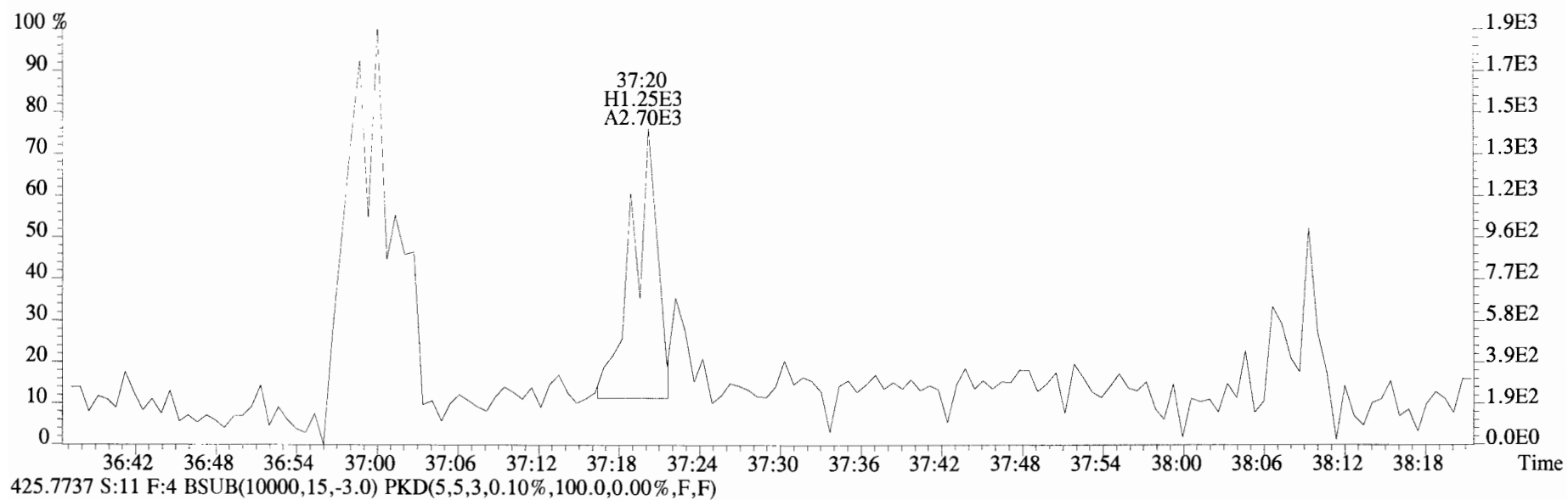
437.8140 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



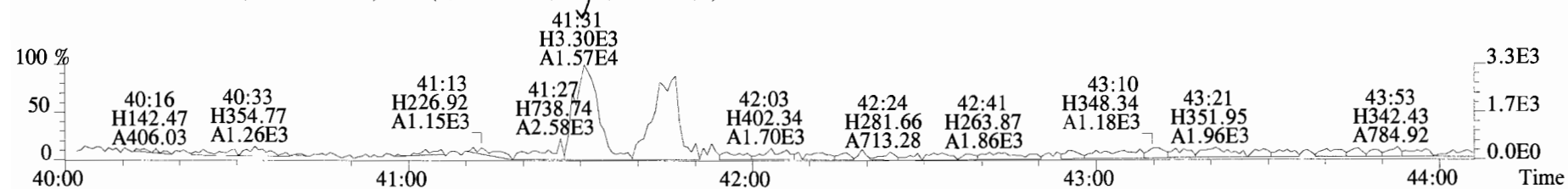
454.9728 S:11 F:4



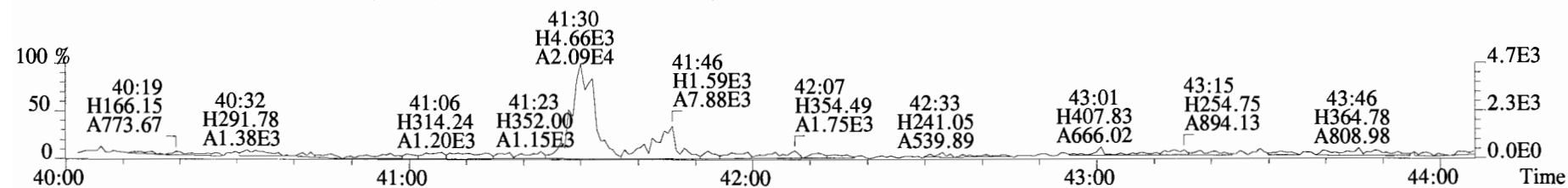
File:190712D1 #1-355 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



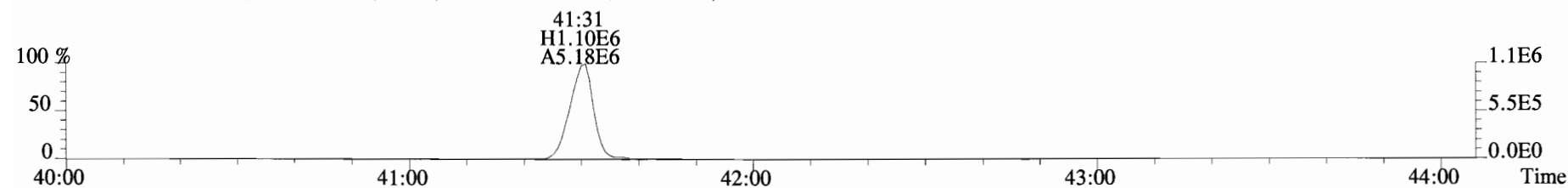
File:190712D1 #1-432 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
 457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



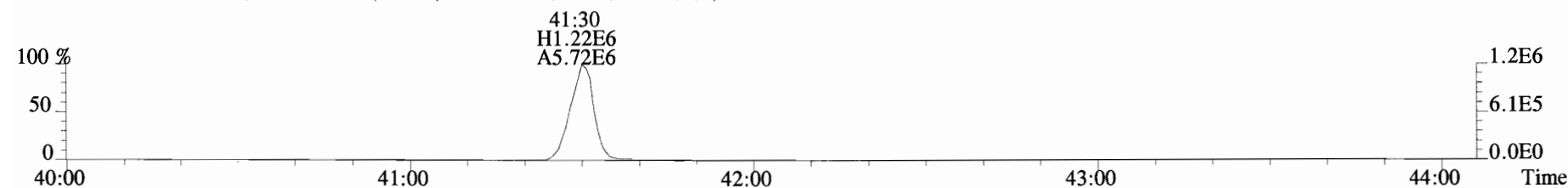
459.7348 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



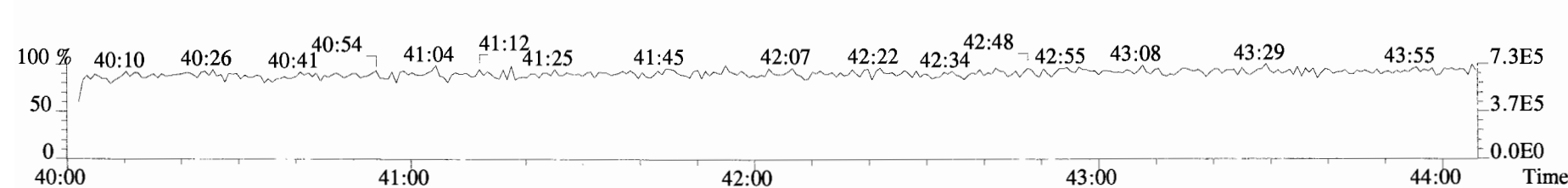
469.7780 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



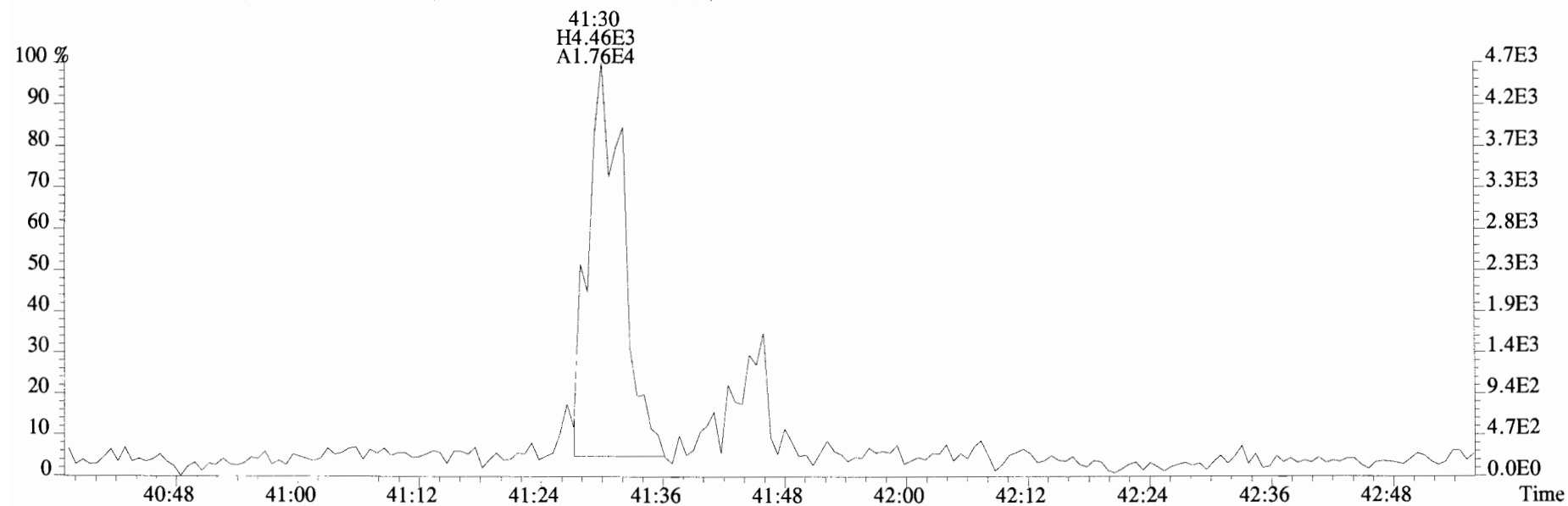
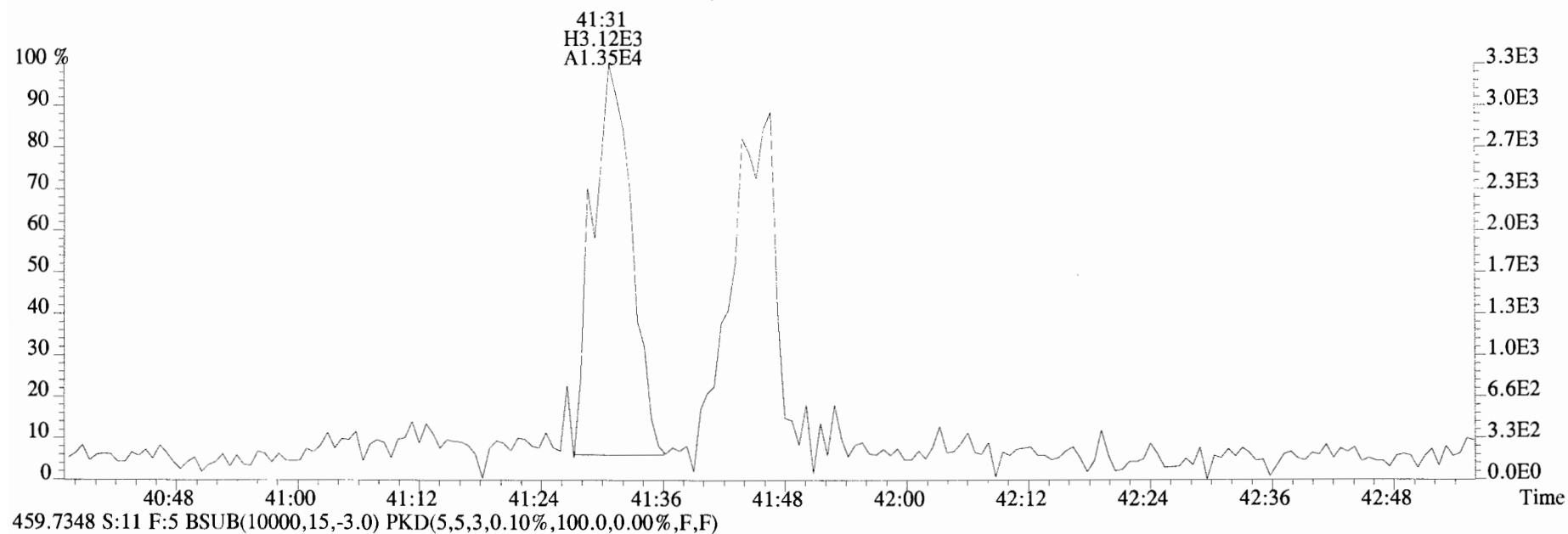
471.7750 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



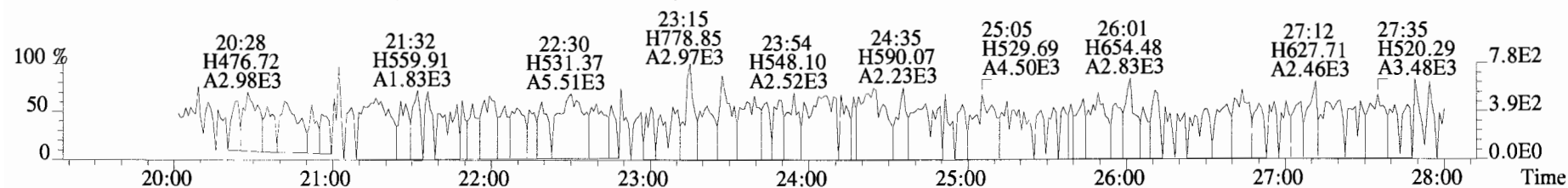
454.9728 S:11 F:5



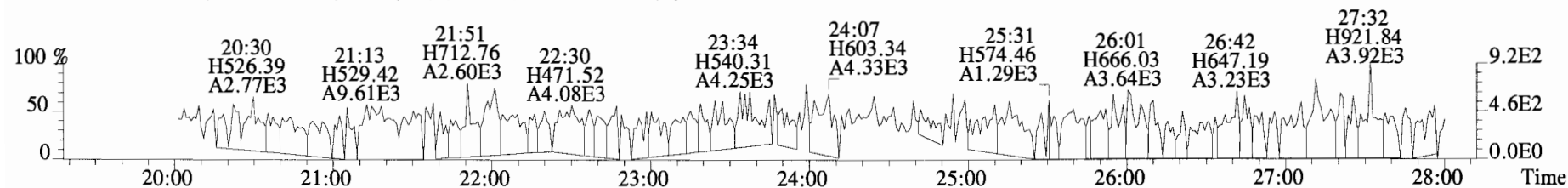
File:190712D1 #1-432 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



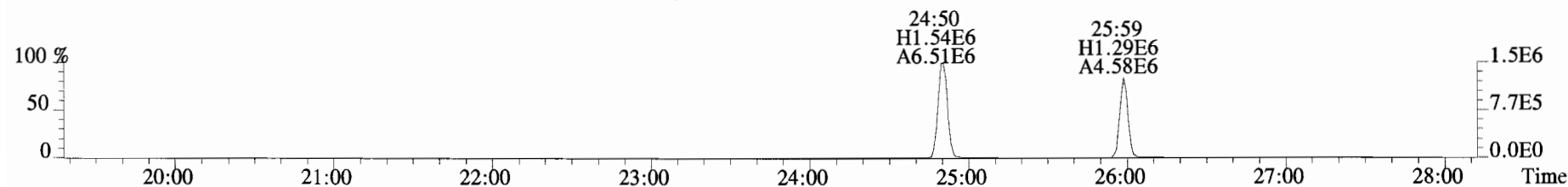
File:190712D1 #1-513 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



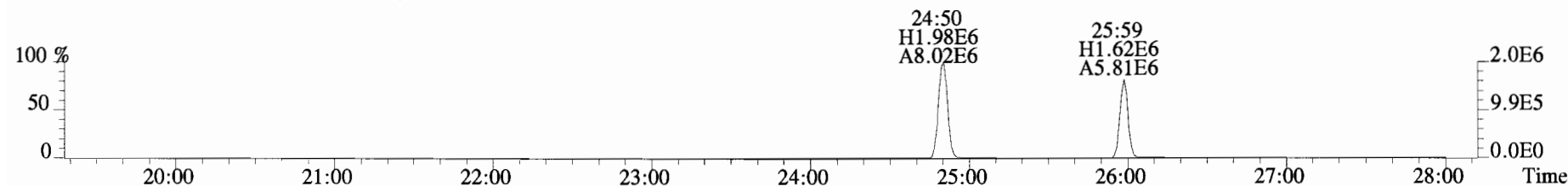
305.8987 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



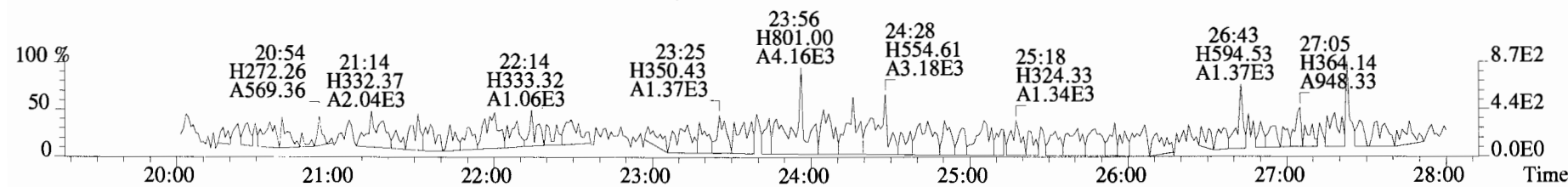
315.9419 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



317.9389 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



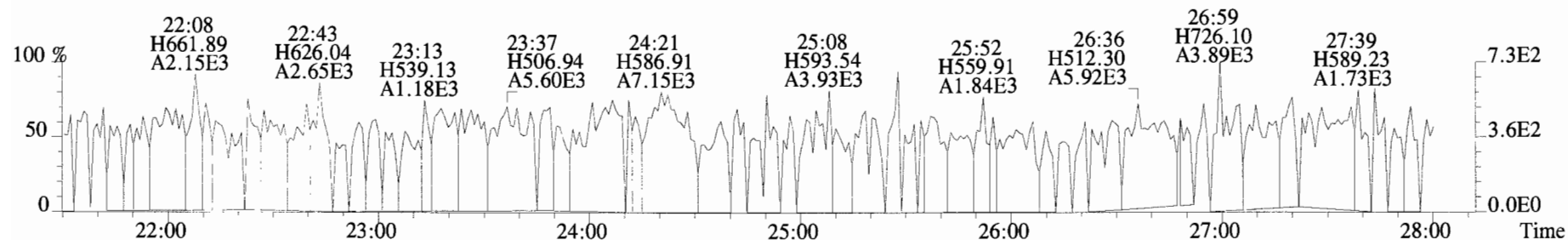
375.8364 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



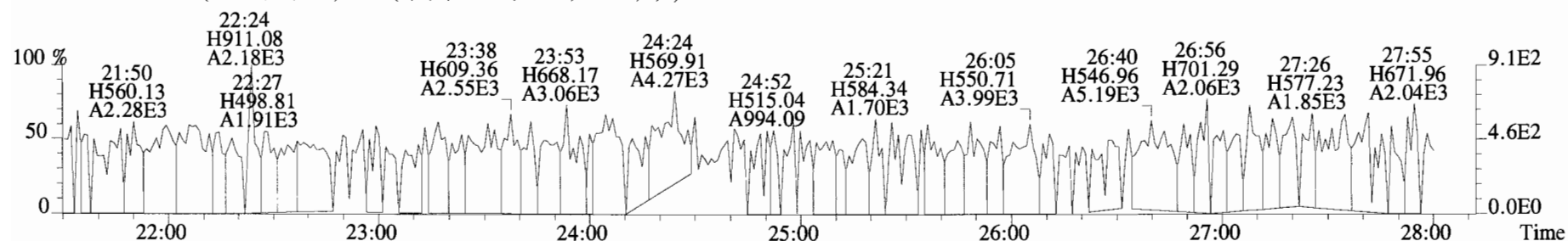
File:190712D1 #1-513 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE

Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5

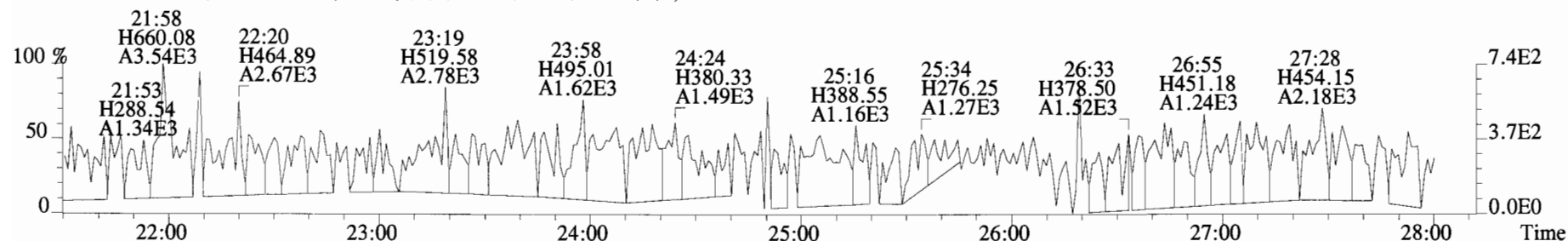
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



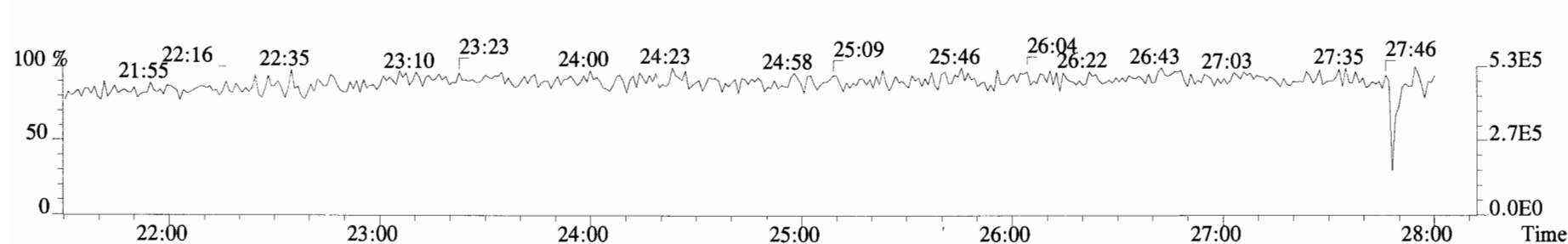
341.8568 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



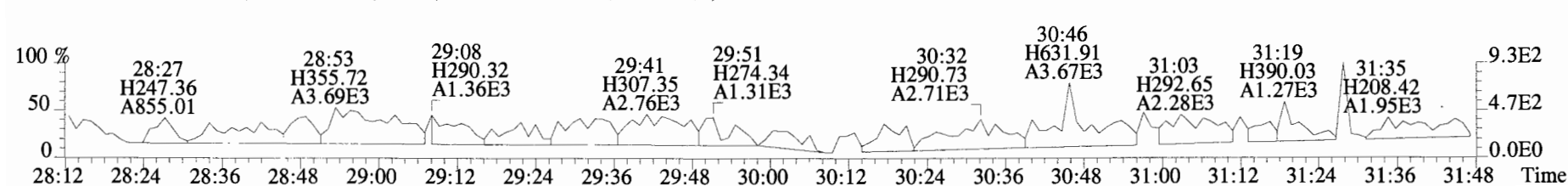
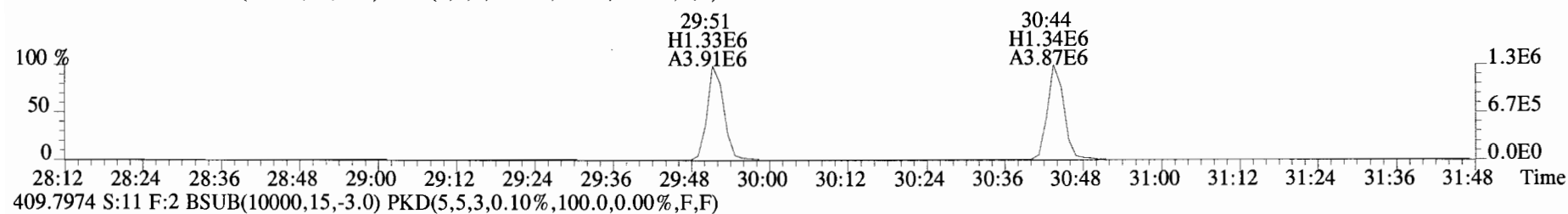
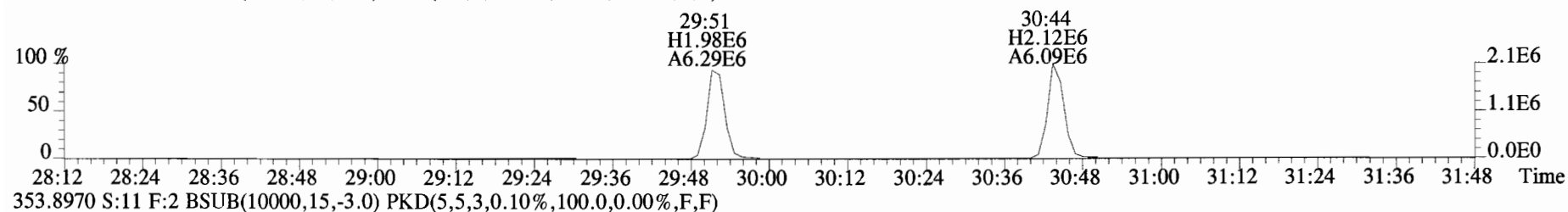
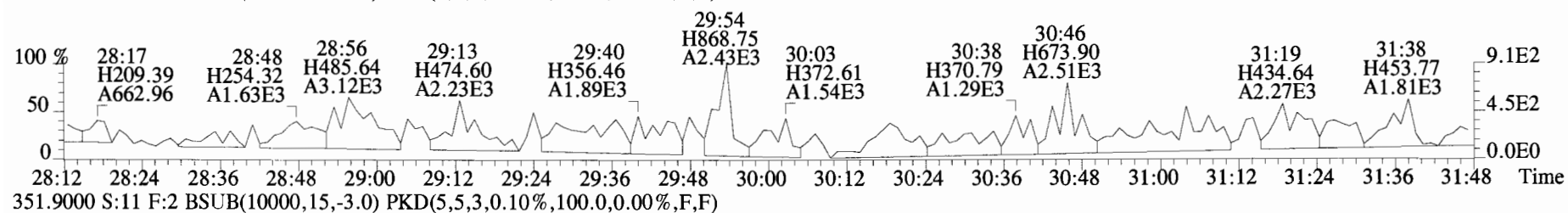
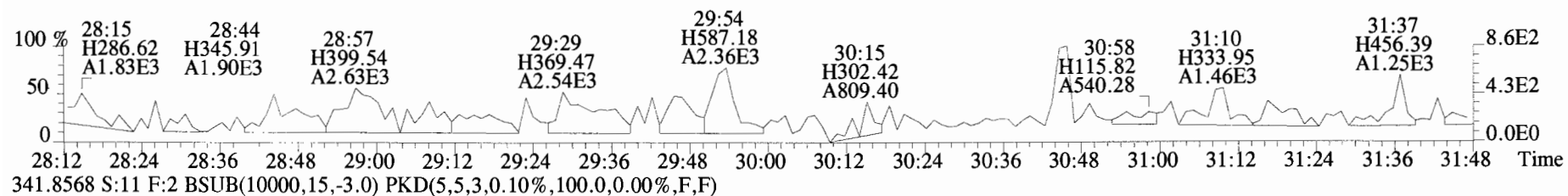
409.7974 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



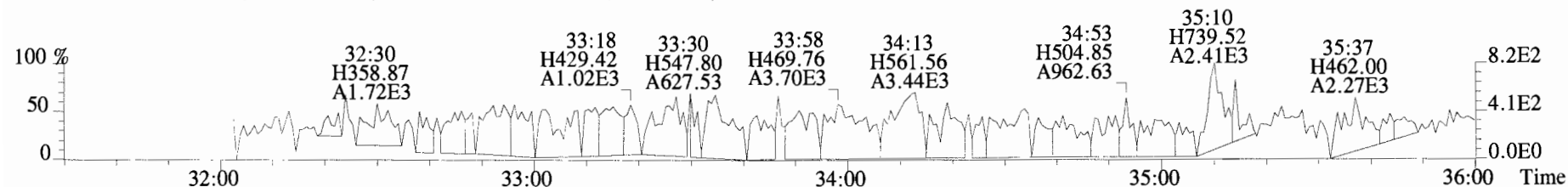
316.9824 S:11



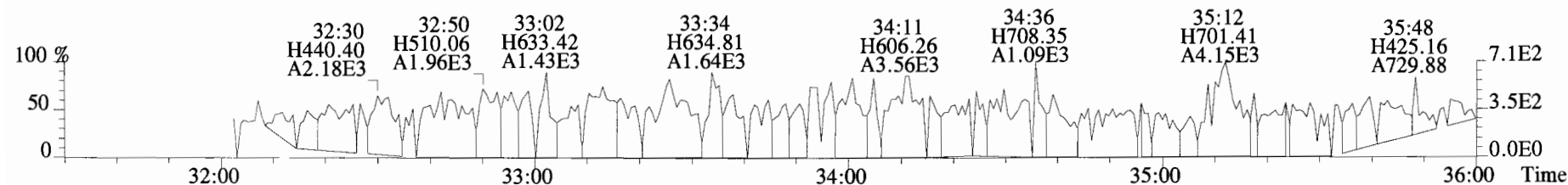
File:190712D1 #1-211 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



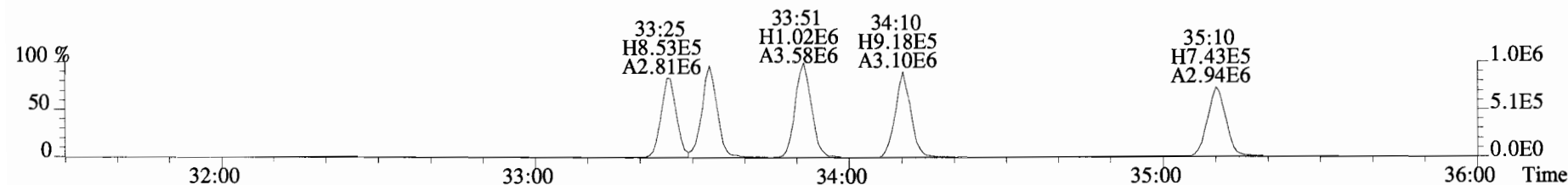
File:190712D1 #1-355 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory_VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
 373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



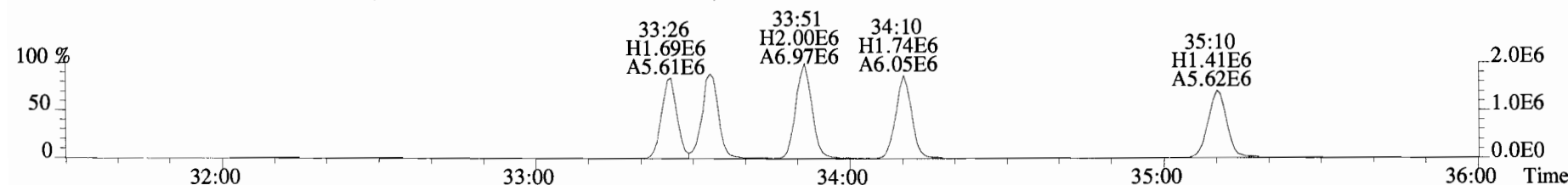
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



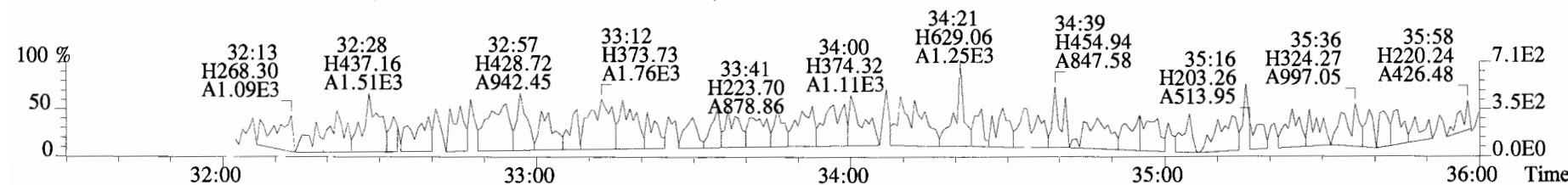
383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



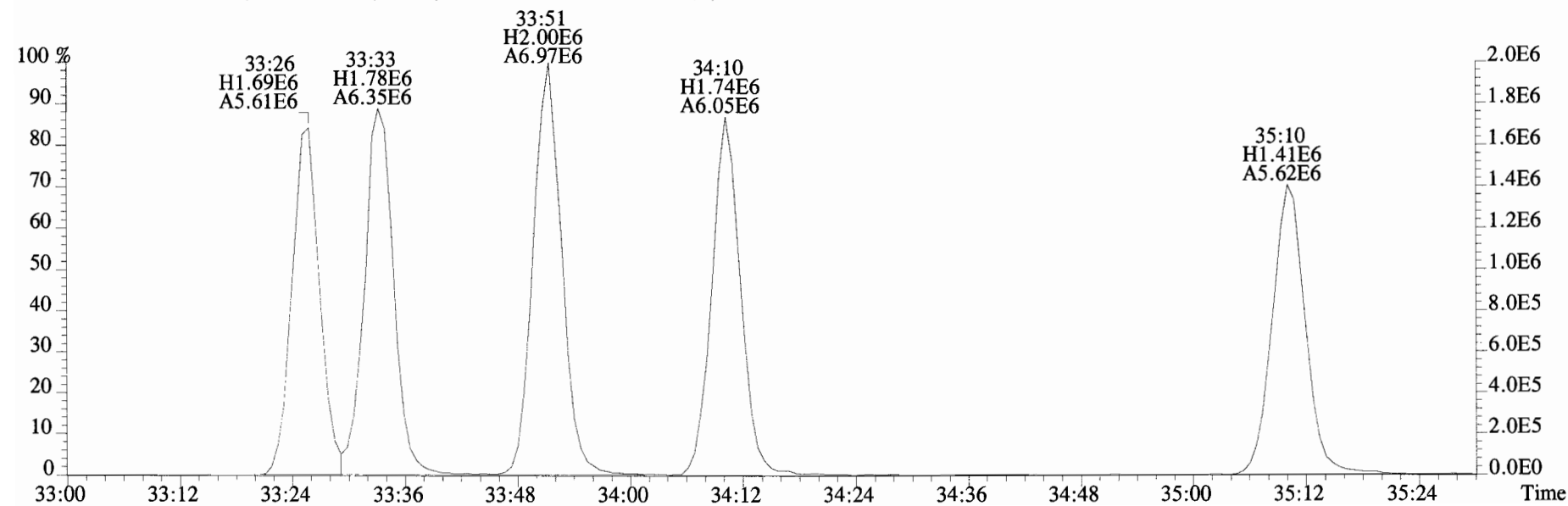
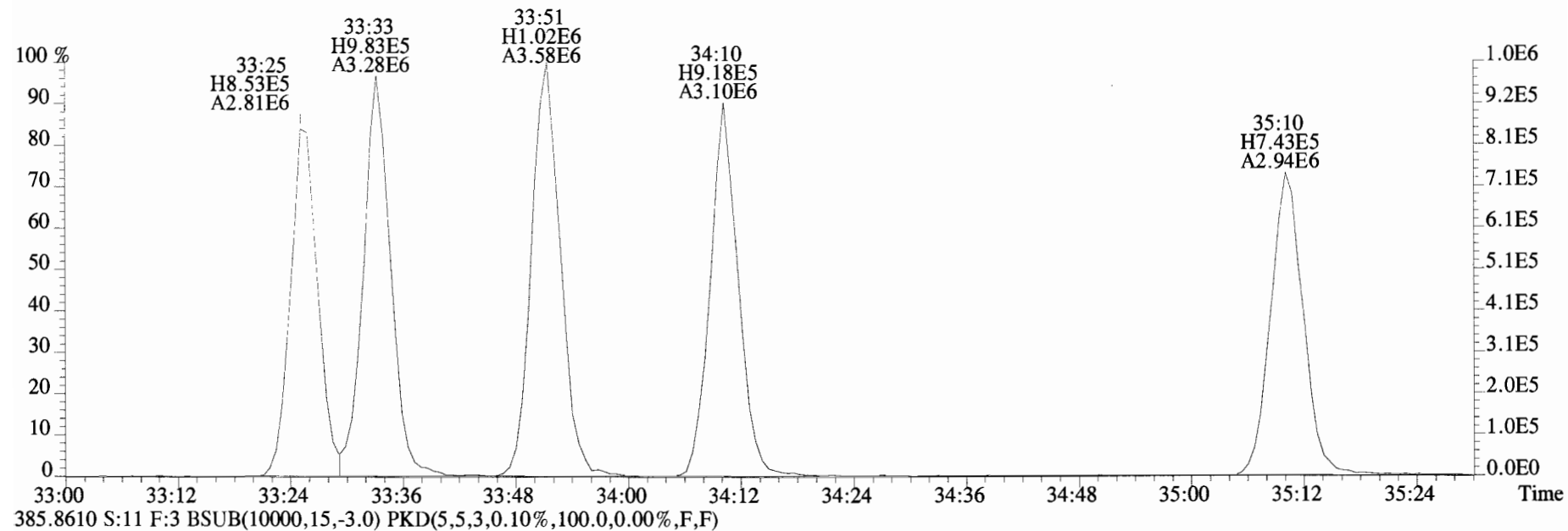
385.8610 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



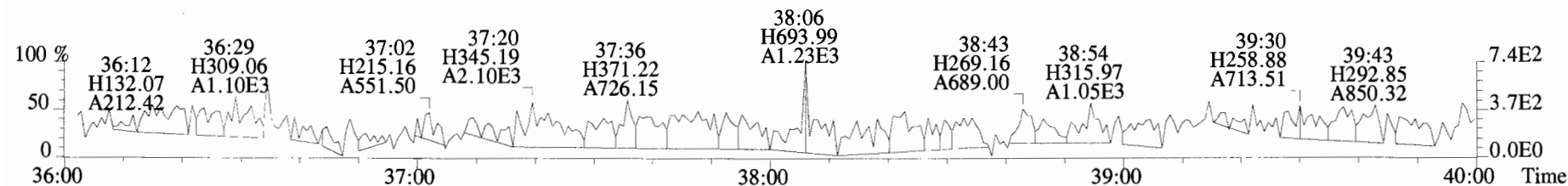
445.7555 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



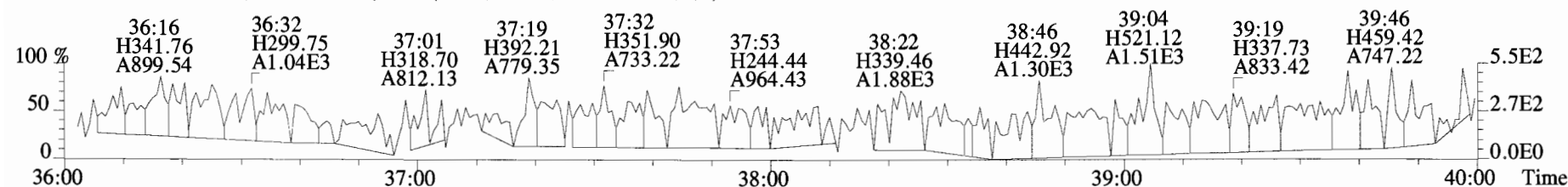
File:190712D1 #1-355 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
 383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



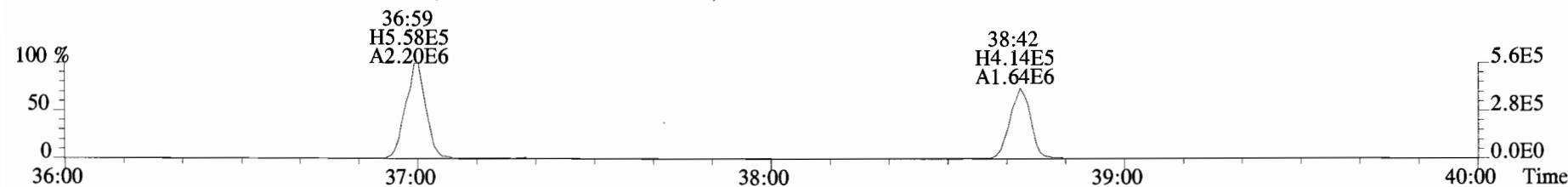
File:190712D1 #1-355 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical_Laboratory_VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



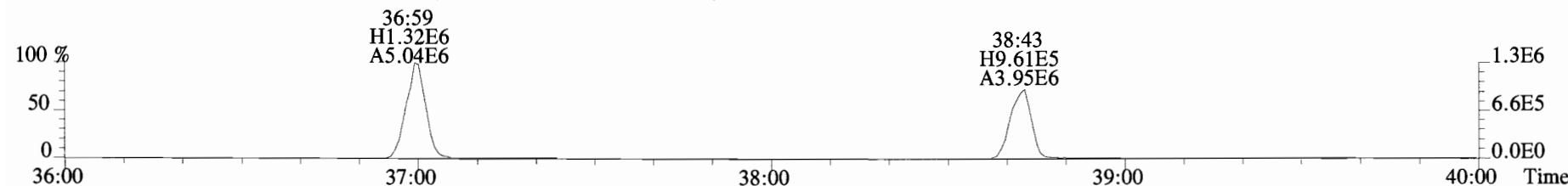
409.7788 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



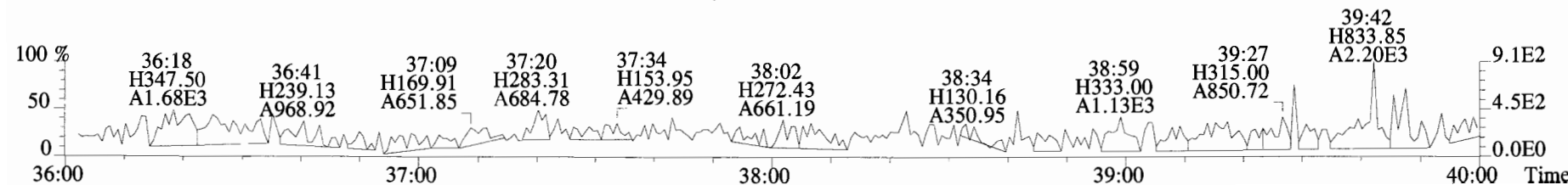
417.8253 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



419.8220 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



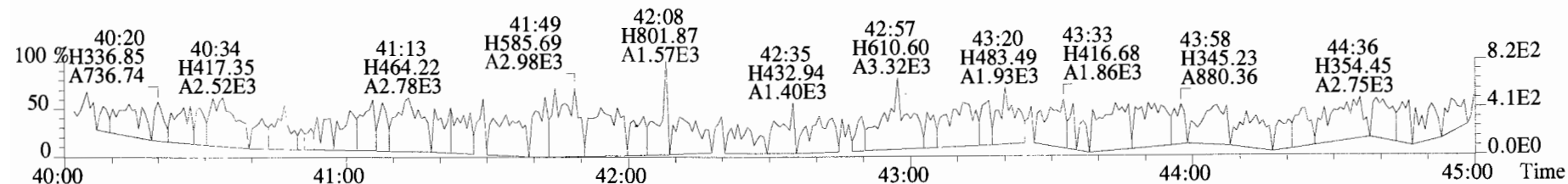
479.7165 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



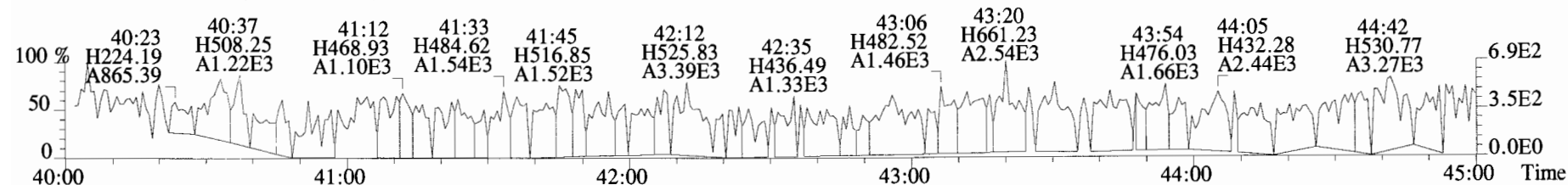
File:190712D1 #1-432 Acq:12-JUL-2019 21:32:20 GC EI+ Voltage SIR Autospec-UltimaE

Sample#11 File Text:Vista Analytical Laboratory_VG7 Text:1901246-14RE1 T4-PDI2019-SC19-190521-05-07 7.32 Exp:OCDD_DB5

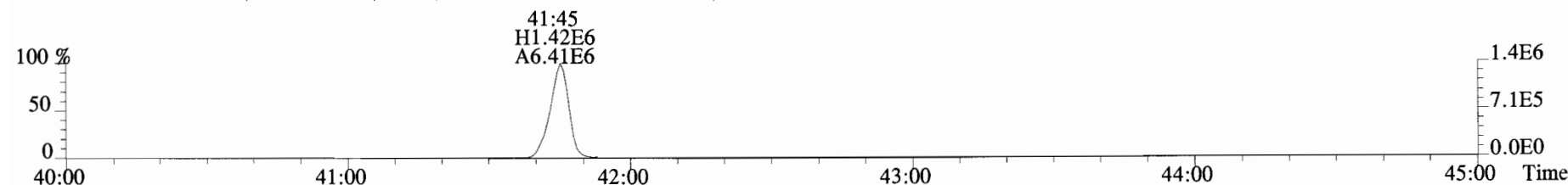
441.7428 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



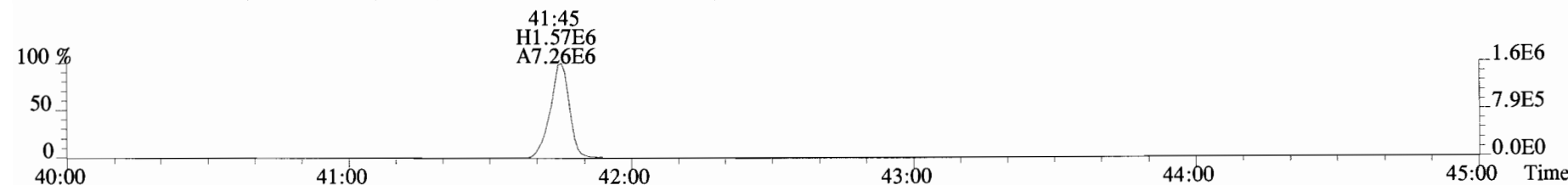
443.7398 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



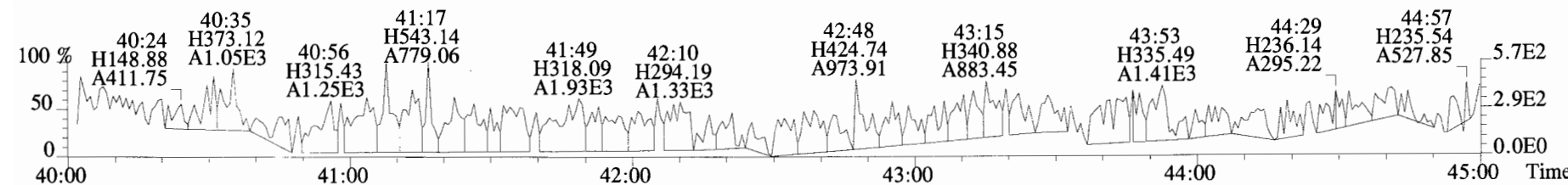
453.7831 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: Duplicate

Filename: 190712D1 S:12 Acq:12-JUL-19 22:19:56

ConCal: ST190712D1-1

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Lab ID: B9G0073-DUP1

GC Column ID: ZB-SMS ICal: 1613VG7-5-10-19 wt/vol: 4.999

EndCAL: NA

										Name	Conc	EMPC	Qual	noise	DL
										2,3,7,8-TCDD	*	* n	0.90	NotF η	*
										1,2,3,7,8-PeCDD	*	* n	0.87	NotF η	*
										1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF η	*
										1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF η	*
										1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF η	*
										1,2,3,4,6,7,8-HpCDD	*	* n	0.99	NotF η	*
										OCDD	3.33e+04	0.90 y	0.99	41:31	2.5873
										2,3,7,8-TCDF	*	* n	0.94	NotF η	*
										1,2,3,7,8-PeCDF	*	* n	0.92	NotF η	*
										2,3,4,7,8-PeCDF	*	* n	0.96	NotF η	*
										1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF η	*
										1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF η	*
										2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF η	*
										1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF η	*
										1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF η	*
										1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF η	*
										OCDF	*	* n	0.94	NotF η	*

Totals class: TCDD EMPC

Entry #: 19

Run: 17

File: 190712D1

S: 12 I: 1 F: 1

Acquired: 12-JUL-19 22:19:56

Processed: 15-JUL-19 11:00:47

Total Concentration: 0.24741

Unnamed Concentration: 0.247

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
24:57	2.169e+03	2.728e+03	0.80 y	4.897e+03	0.24741

Totals class: HxCDD EMPC

Entry #: 23

Run: 17

File: 190712D1

S: 12 I: 1 F: 3

Acquired: 12-JUL-19 22:19:56

Processed: 15-JUL-19 11:00:47

Total Concentration: 0.37326

Unnamed Concentration: 0.373

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:45	3.607e+03	2.532e+03	1.42 y	6.139e+03	0.37326

Totals class: TCDF EMPC

Entry #: 27

Run: 17

File: 190712D1

S: 12 I: 1 F: 1

Acquired: 12-JUL-19 22:19:56

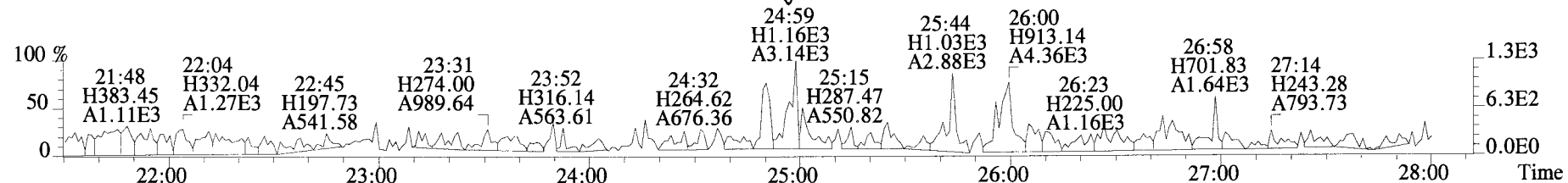
Processed: 15-JUL-19 11:00:47

Total Concentration: 0.13367

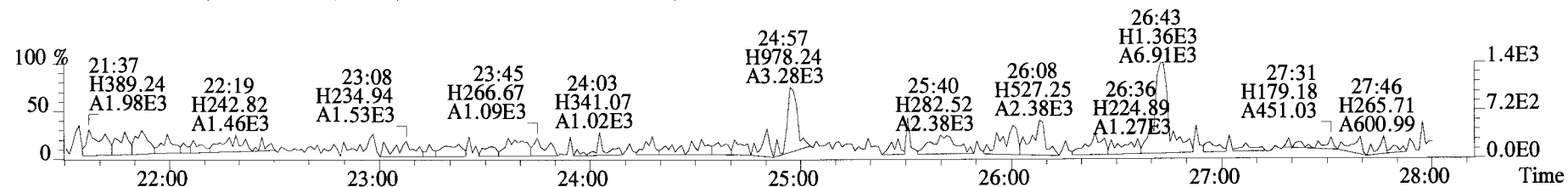
Unnamed Concentration: 0.134

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
25:14	2.597e+03	2.131e+03	1.22 n	3.771e+03	0.13367

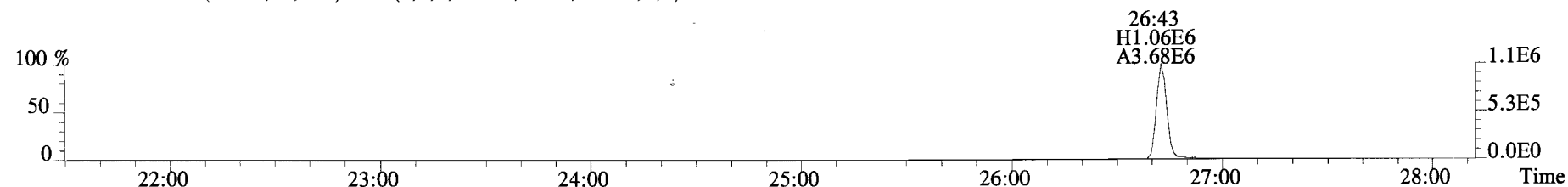
File:190712D1 #1-513 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



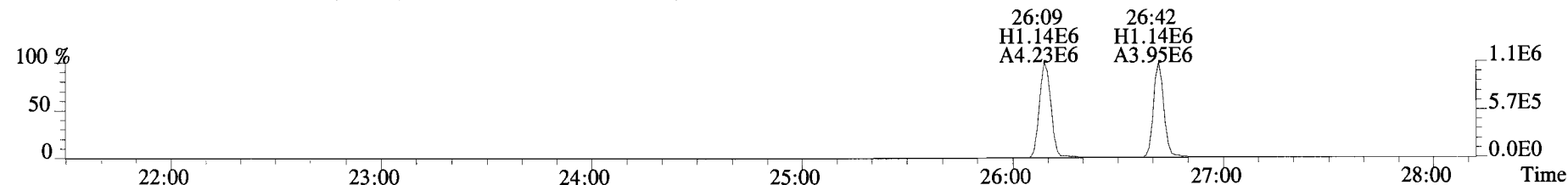
321.8936 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



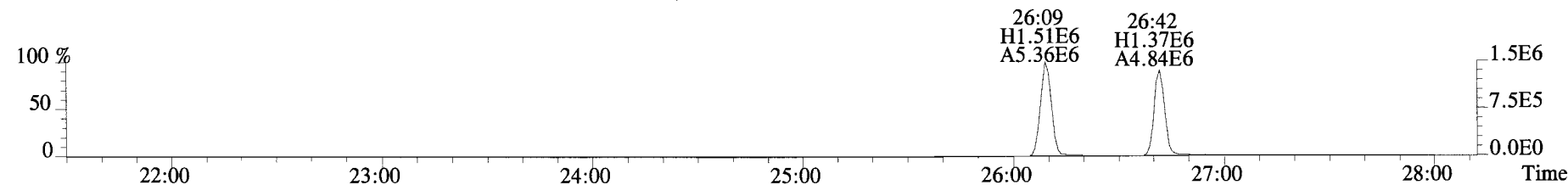
327.8847 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



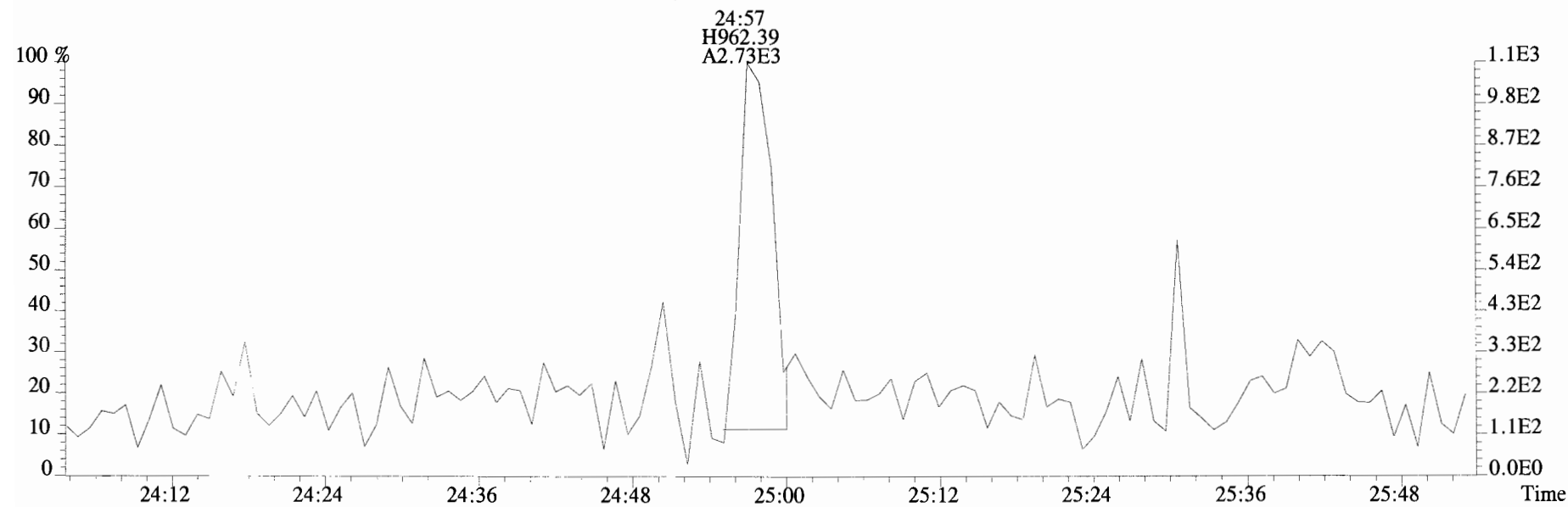
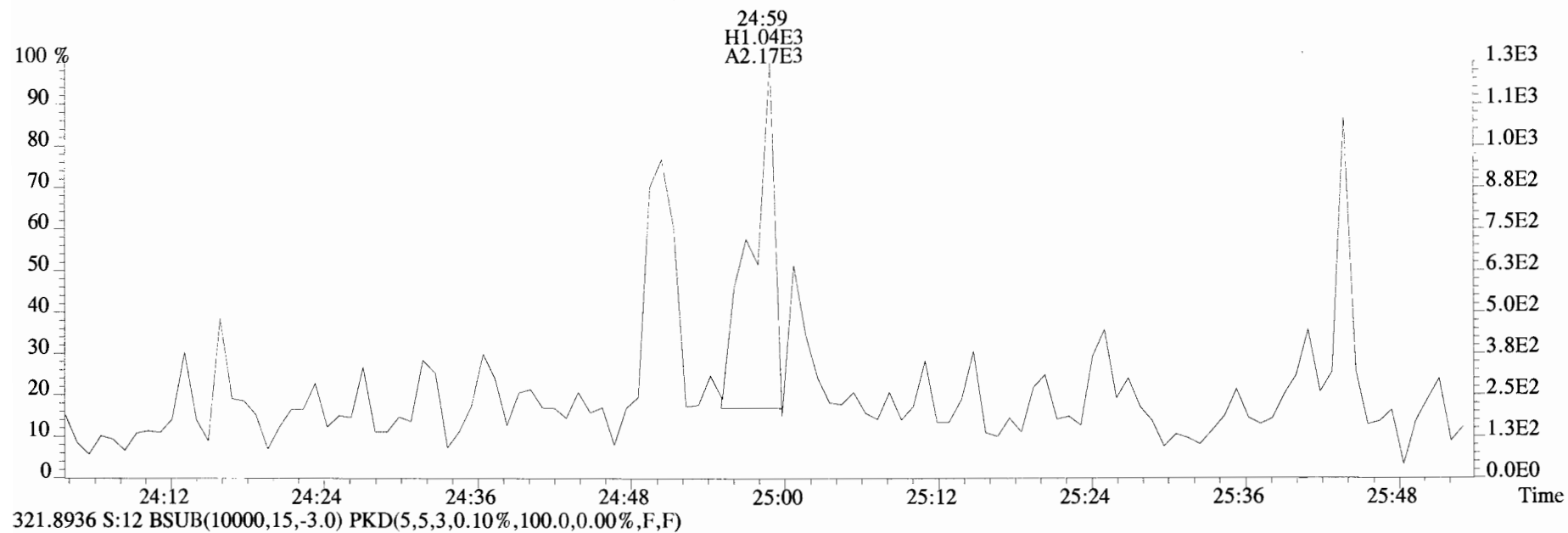
331.9368 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



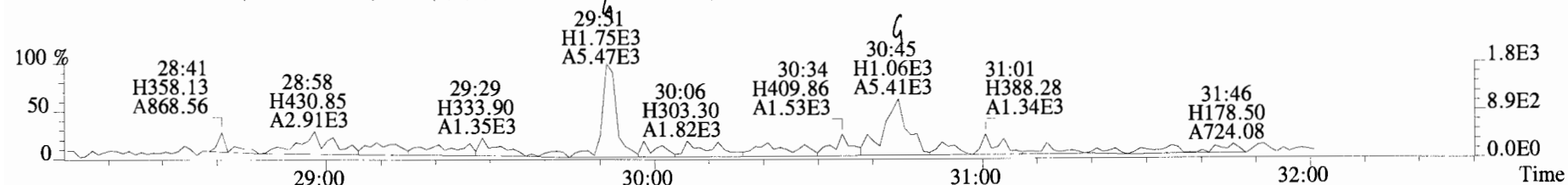
333.9339 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



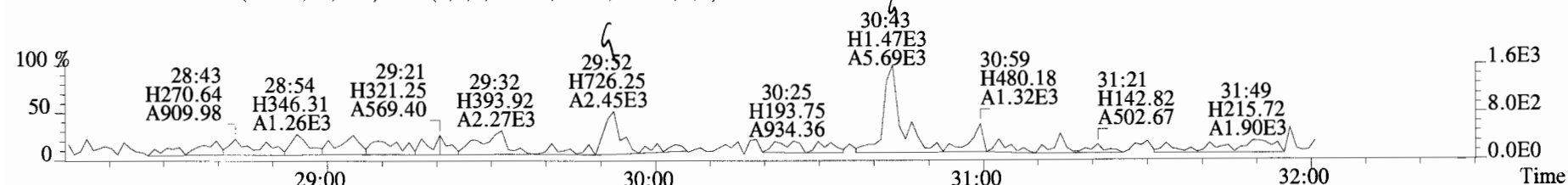
File:190712D1 #1-513 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



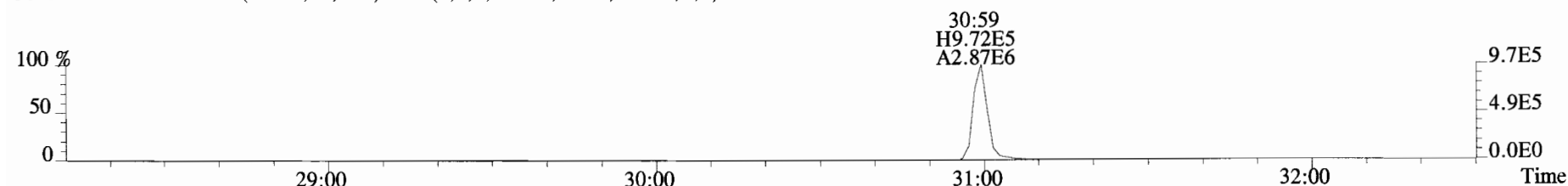
File:190712D1 #1-211 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



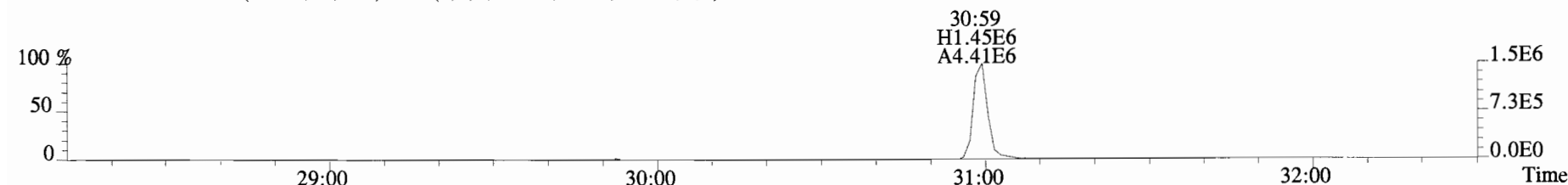
355.8546 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



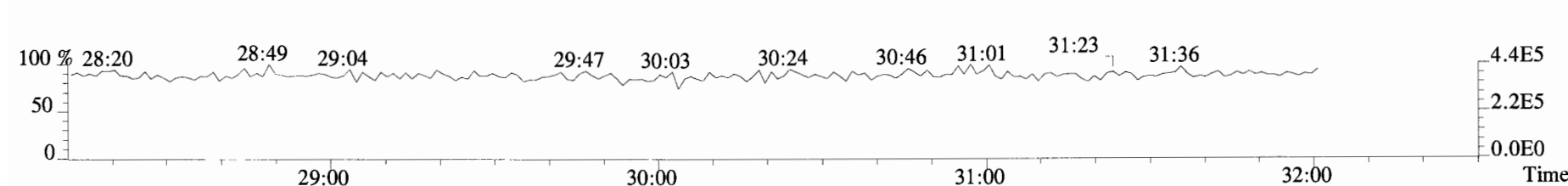
365.8978 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



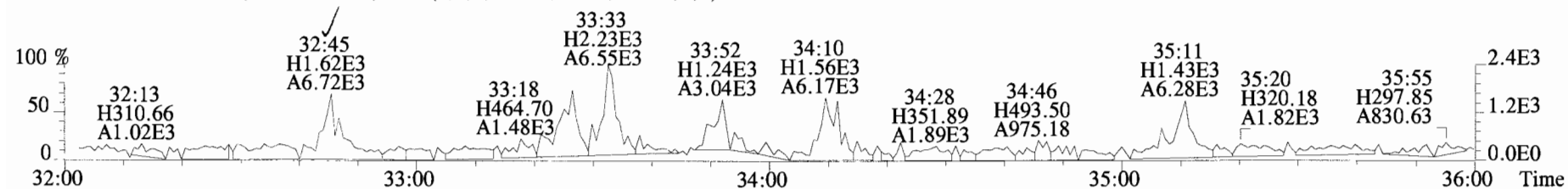
367.8949 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



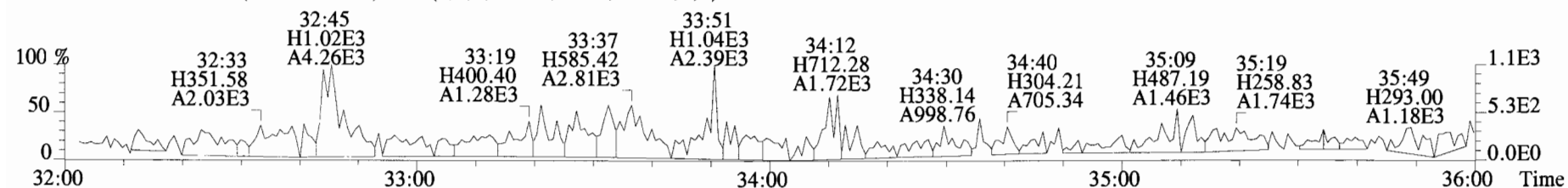
366.9792 S:12 F:2



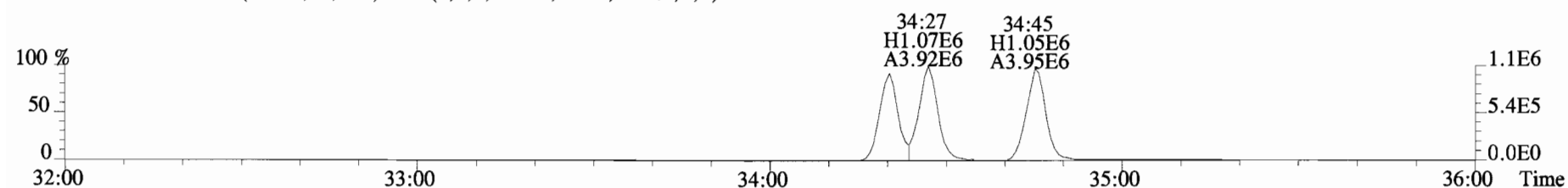
File:190712D1 #1-355 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



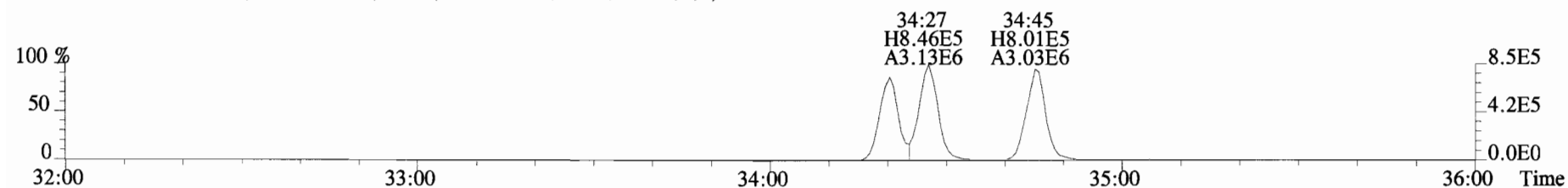
391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



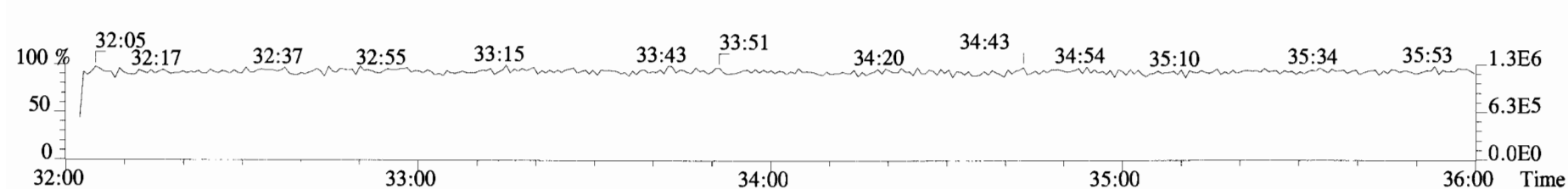
401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



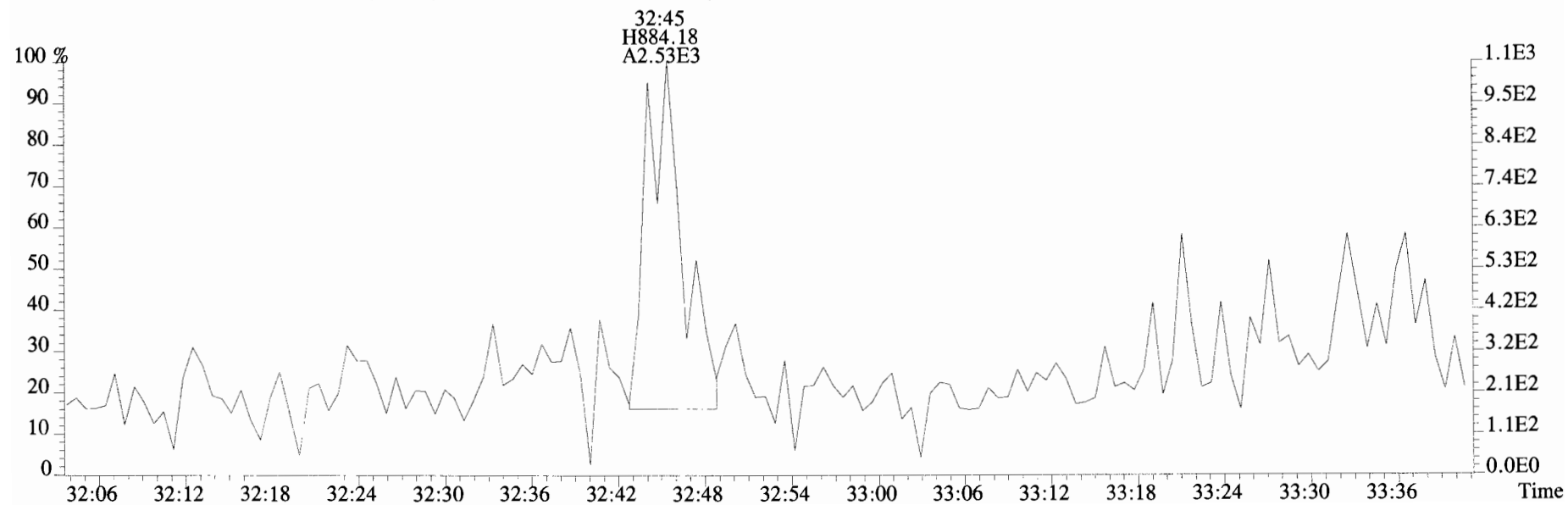
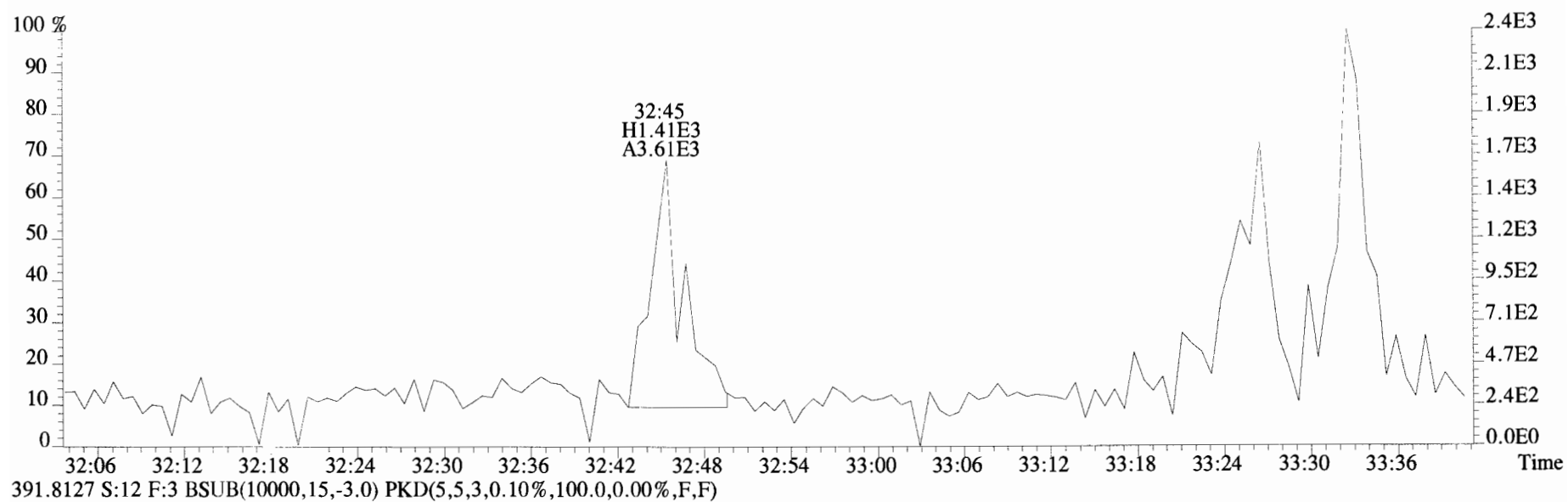
403.8530 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



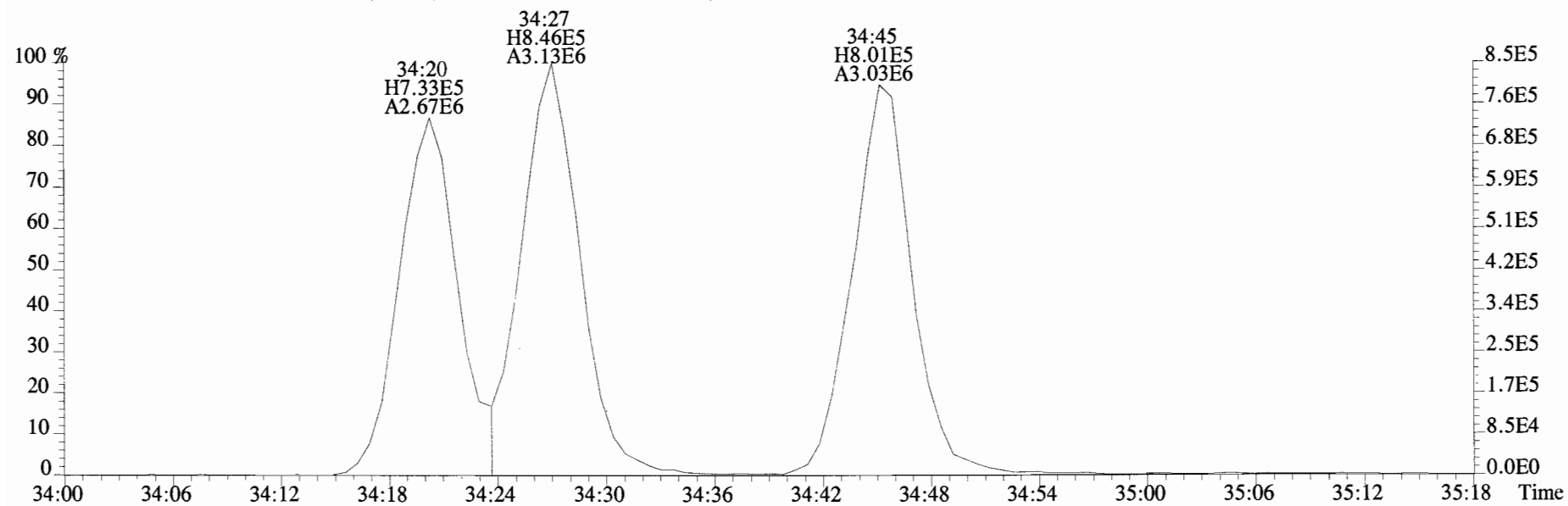
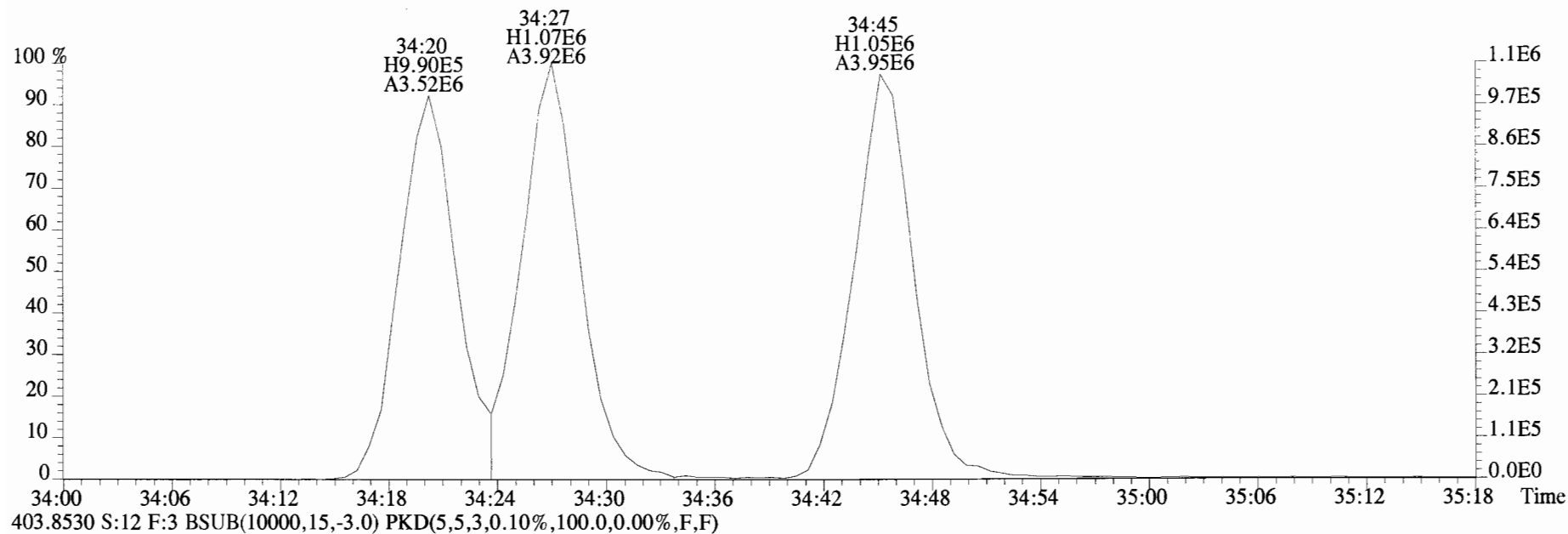
392.9760 S:12 F:3



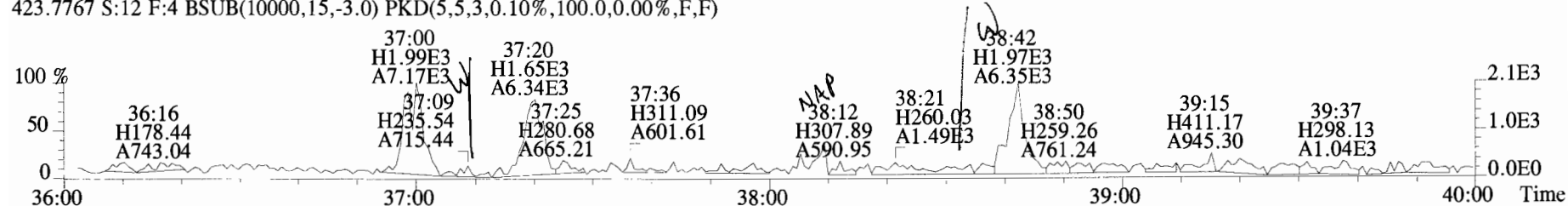
File:190712D1 #1-355 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



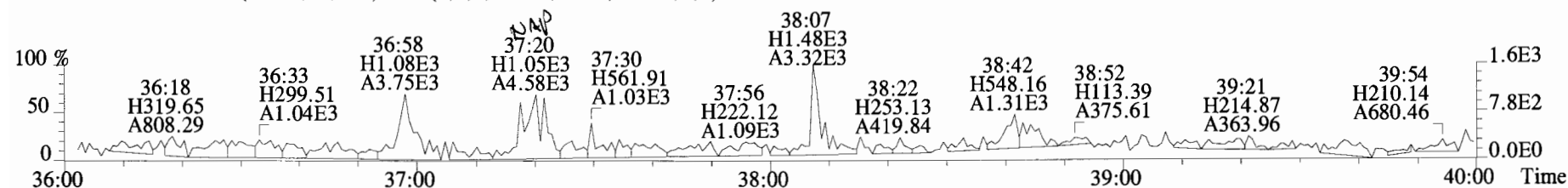
File:190712D1 #1-355 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
401.8559 S:12 F:3 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



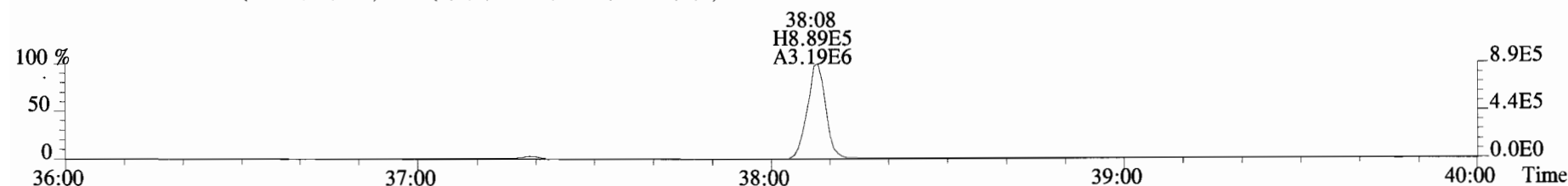
File:190712D1 #1-355 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



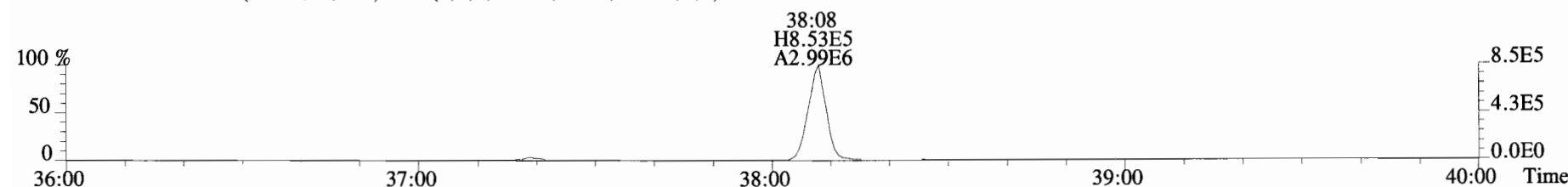
425.7737 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



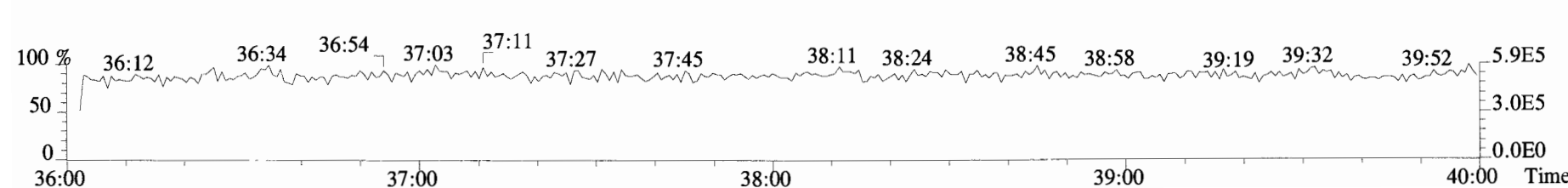
435.8169 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



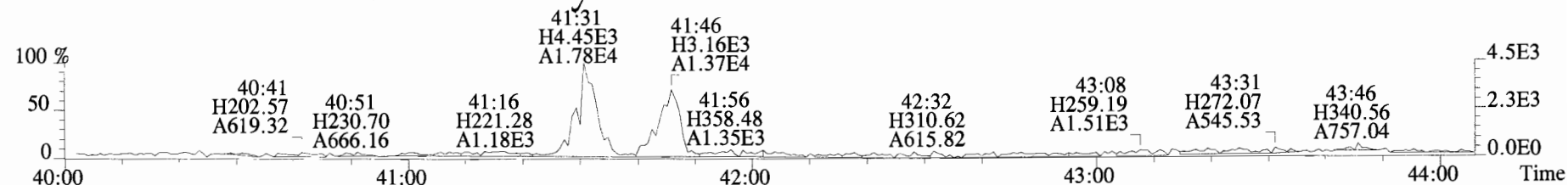
437.8140 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



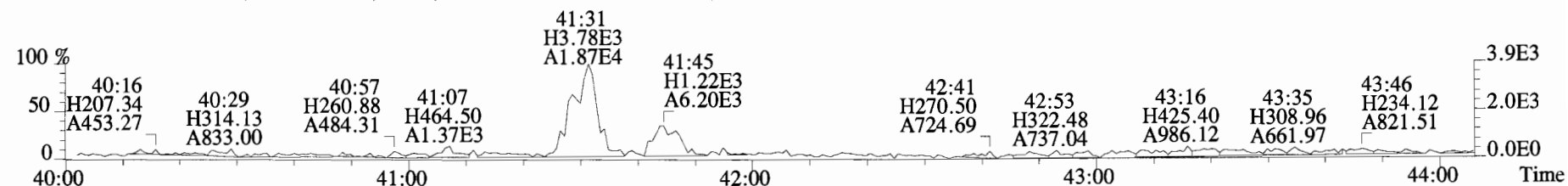
454.9728 S:12 F:4



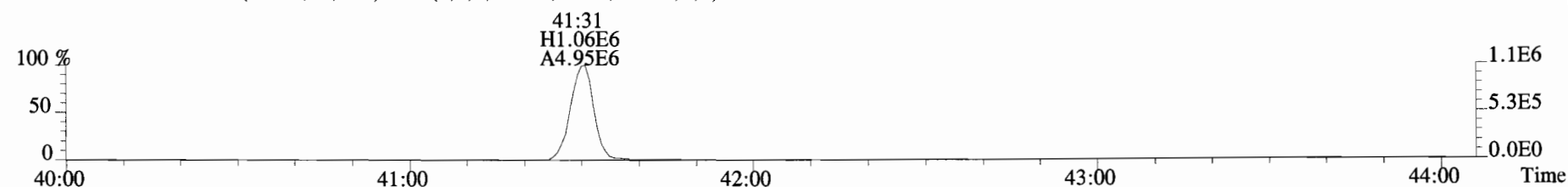
File:190712D1 #1-432 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
457.7377 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



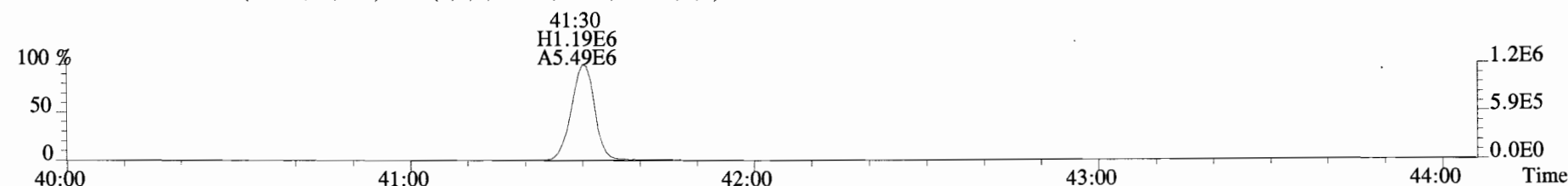
459.7348 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



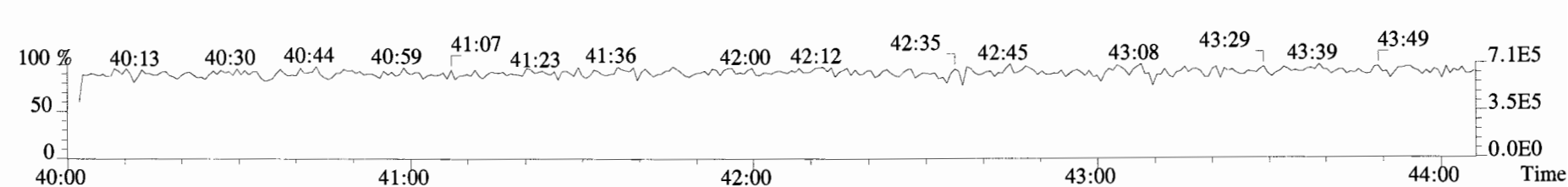
469.7780 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



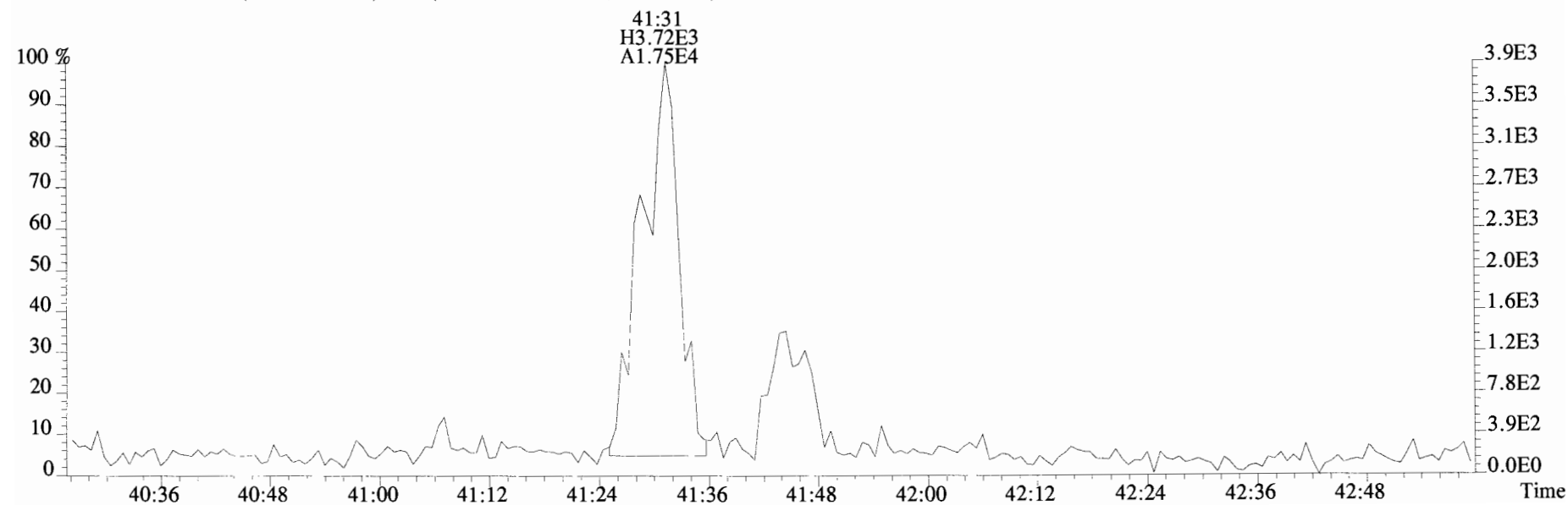
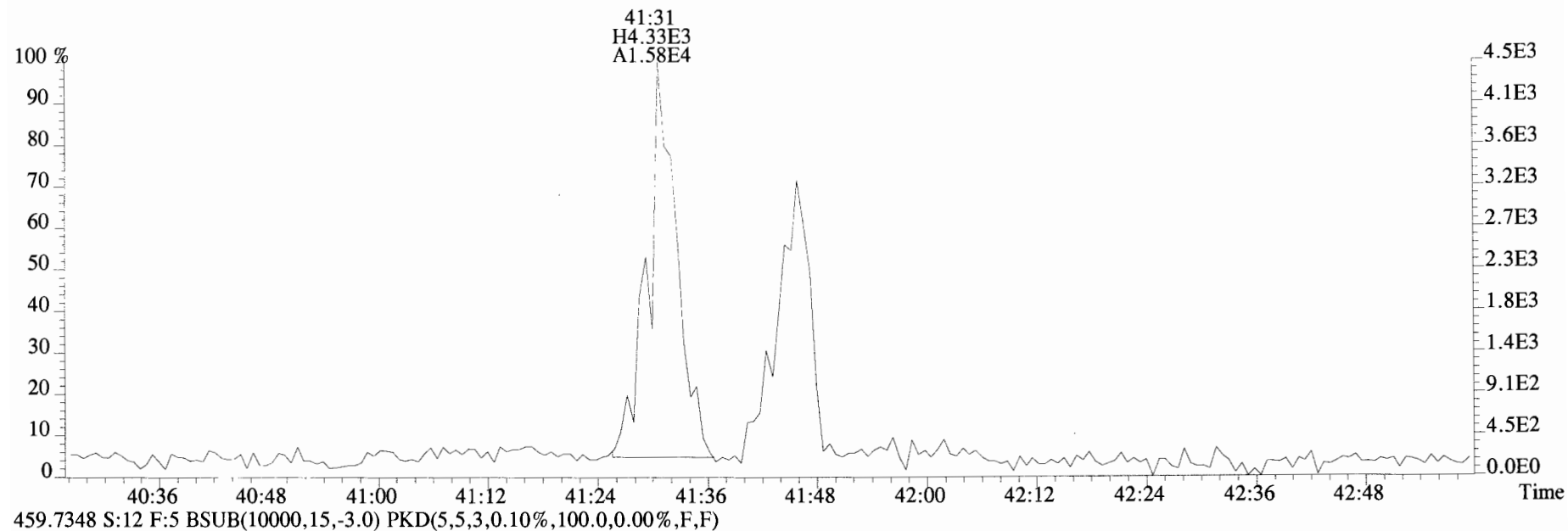
471.7750 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



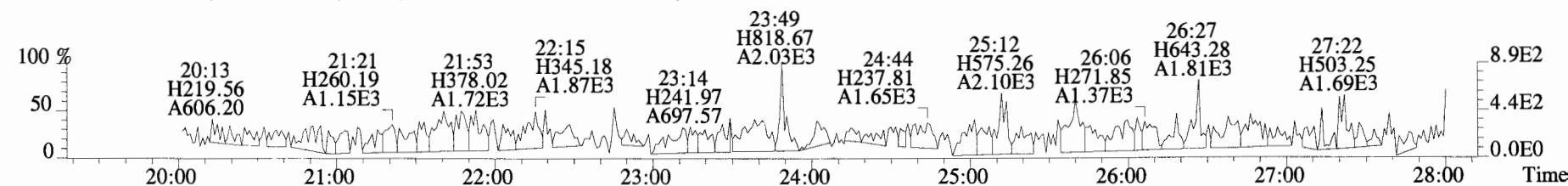
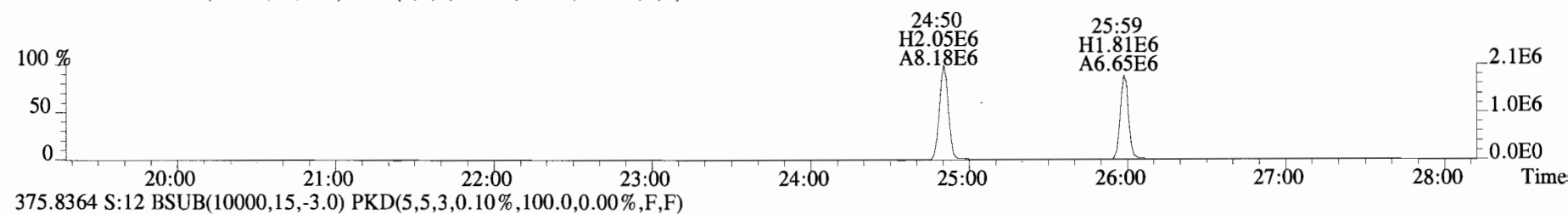
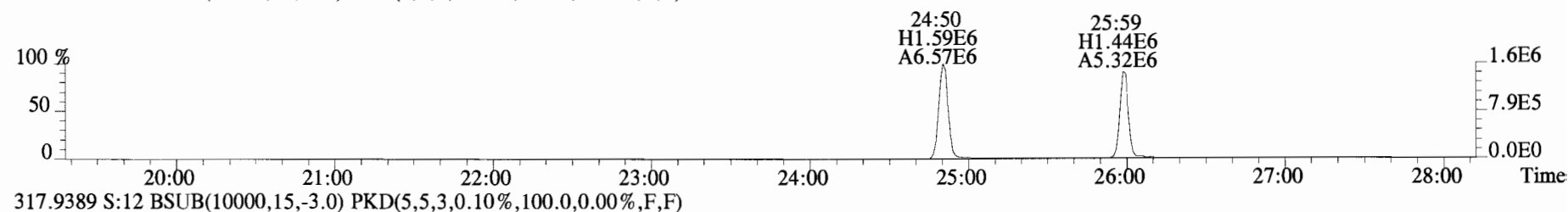
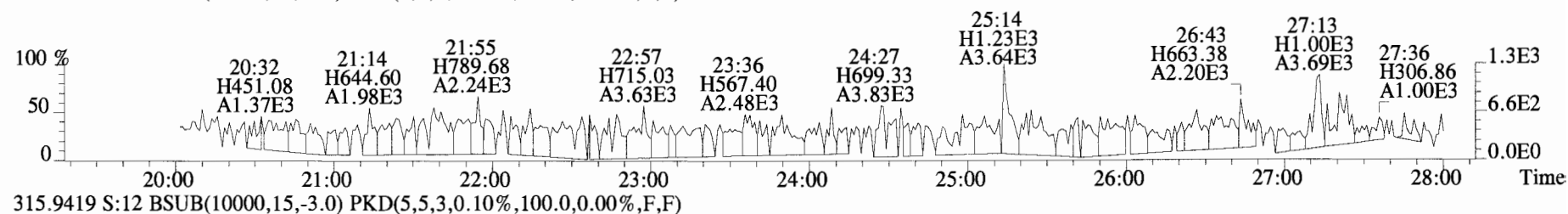
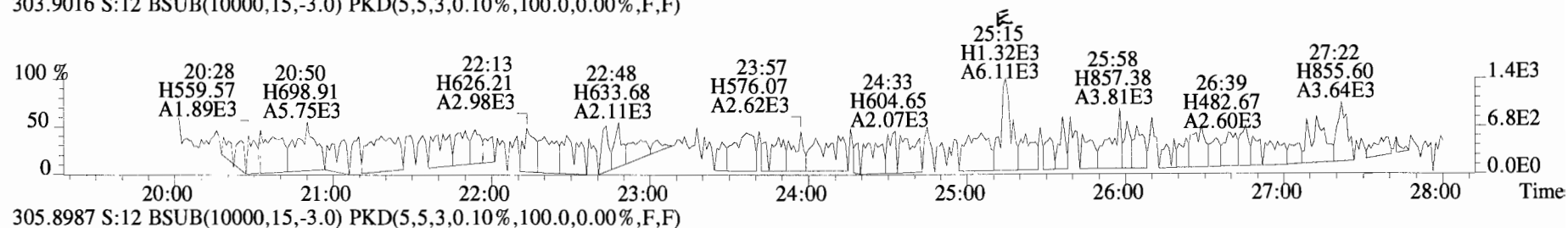
454.9728 S:12 F:5



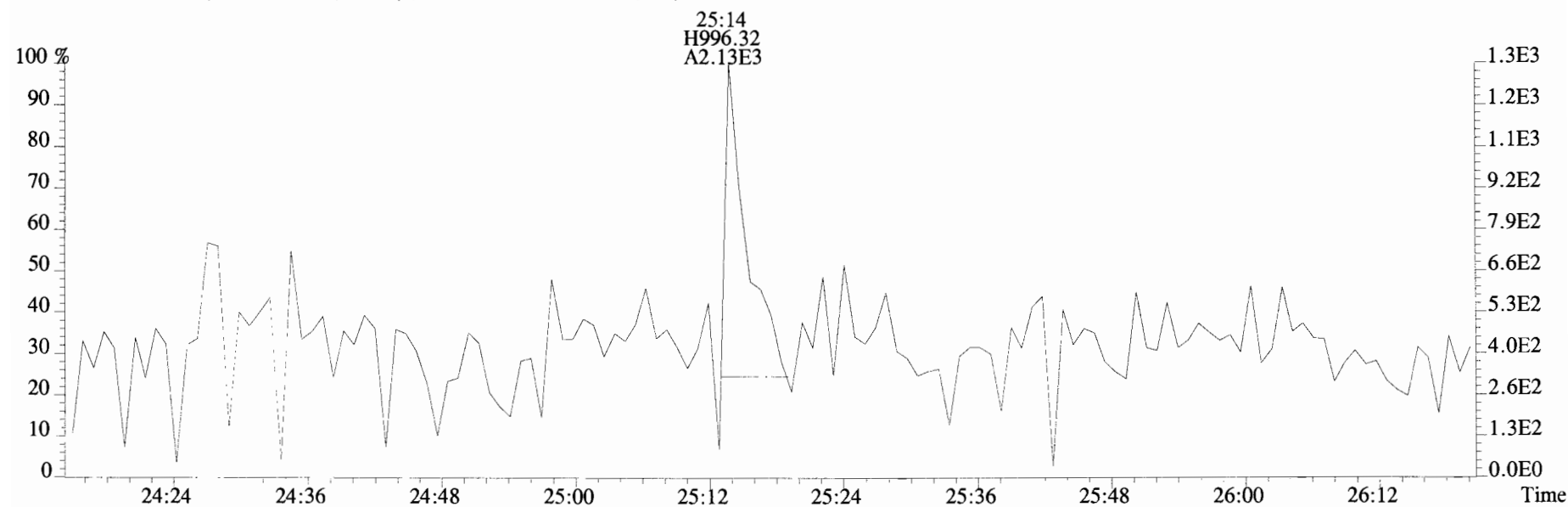
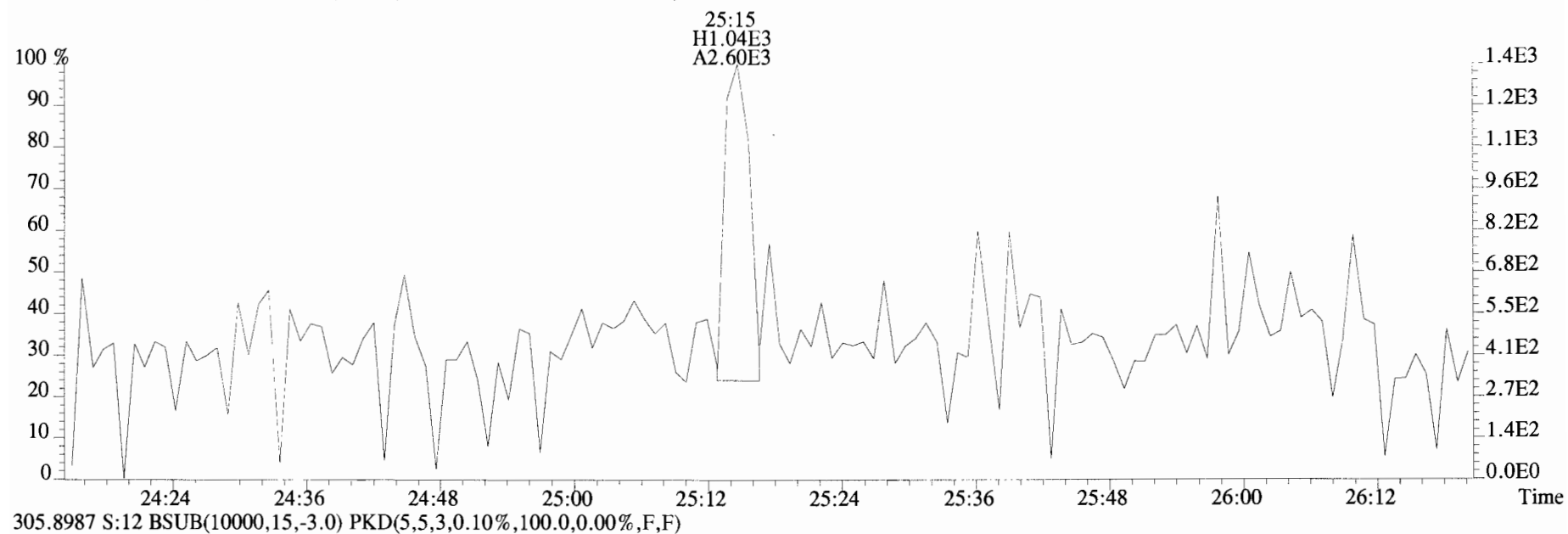
File:190712D1 #1-432 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
457.7377 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



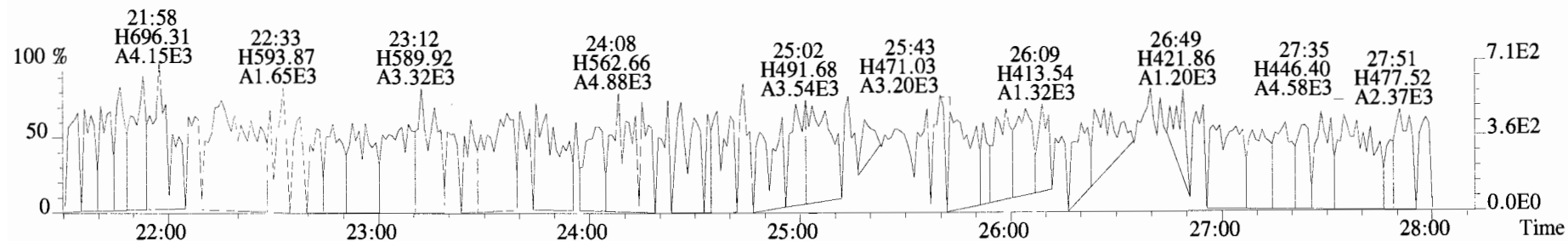
File:190712D1 #1-513 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



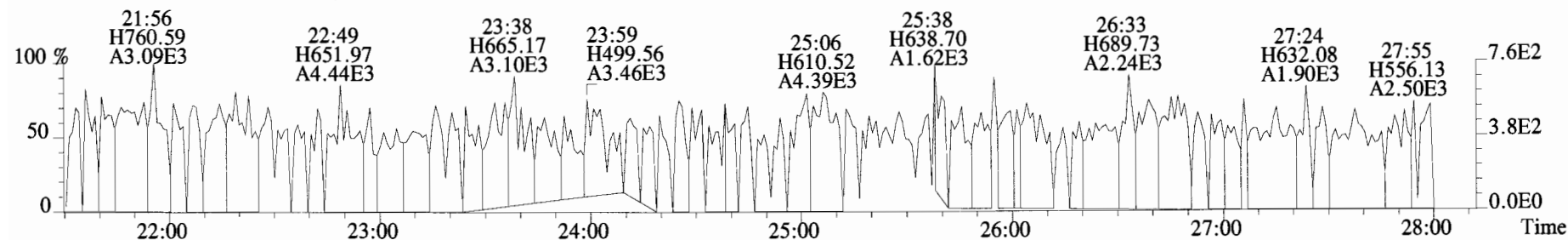
File:190712D1 #1-513 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



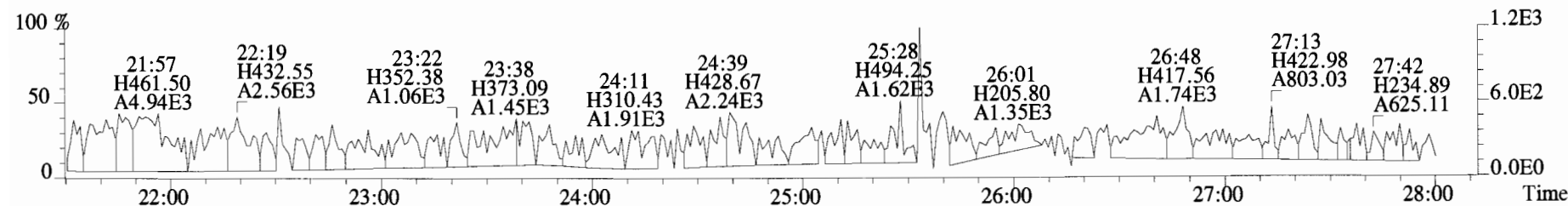
File:190712D1 #1-513 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
339.8597 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



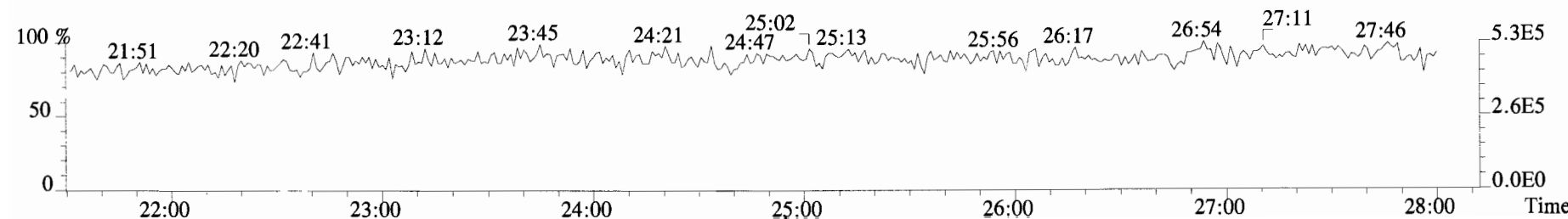
341.8568 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



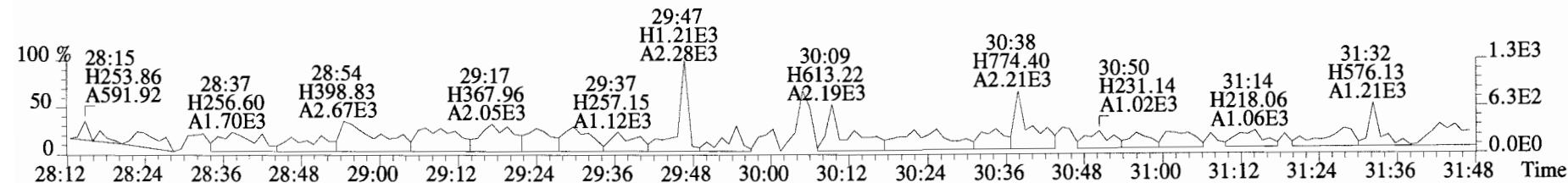
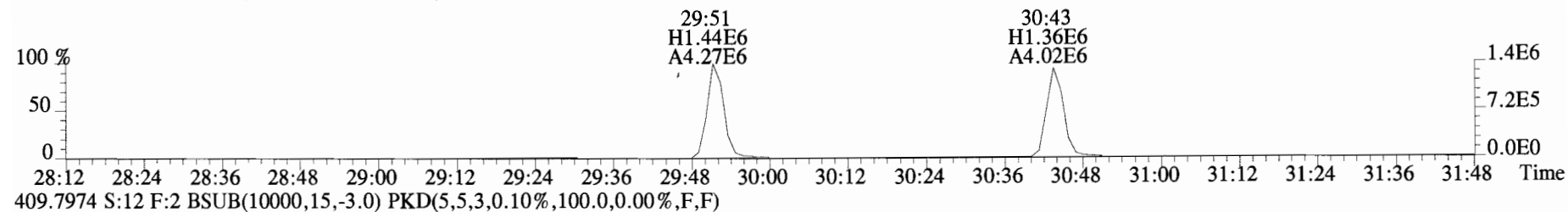
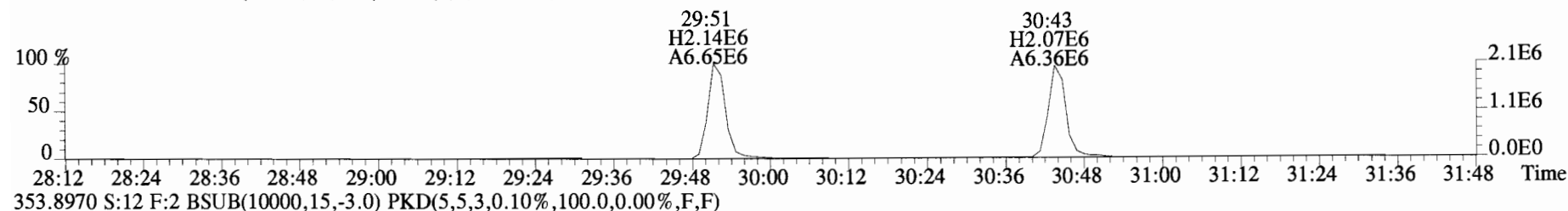
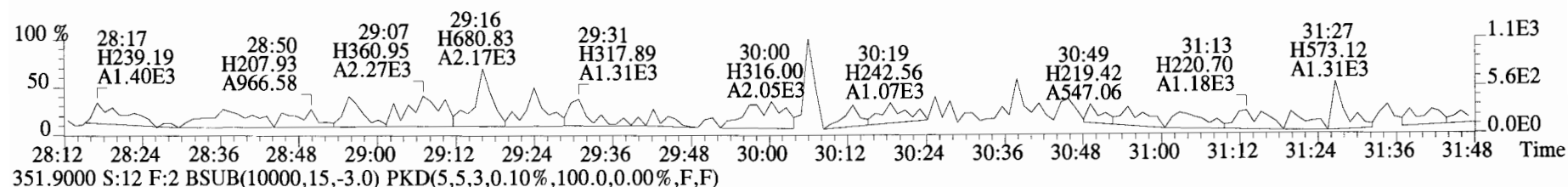
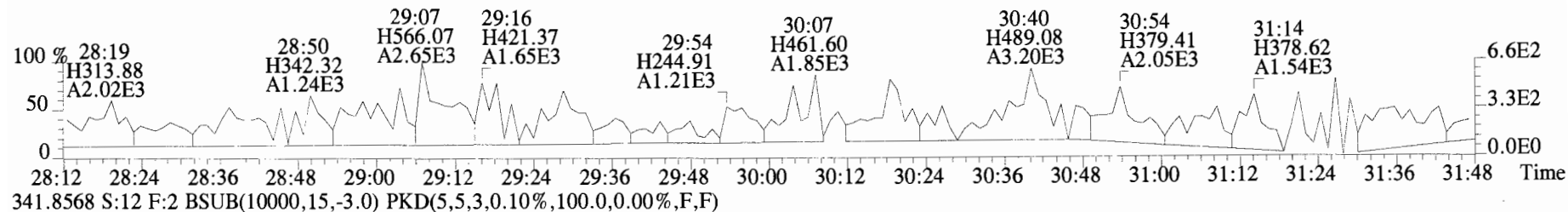
409.7974 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



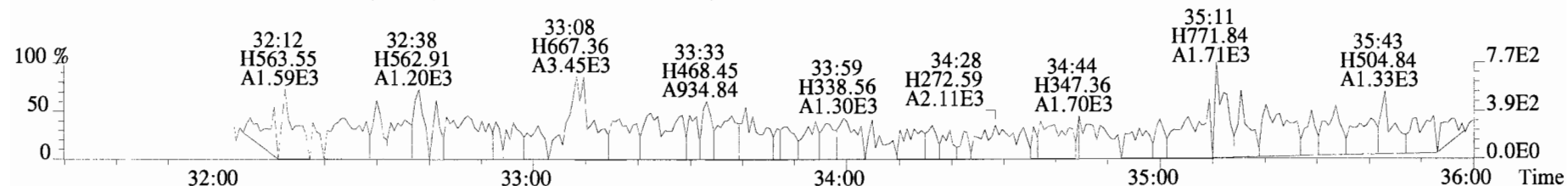
316.9824 S:12



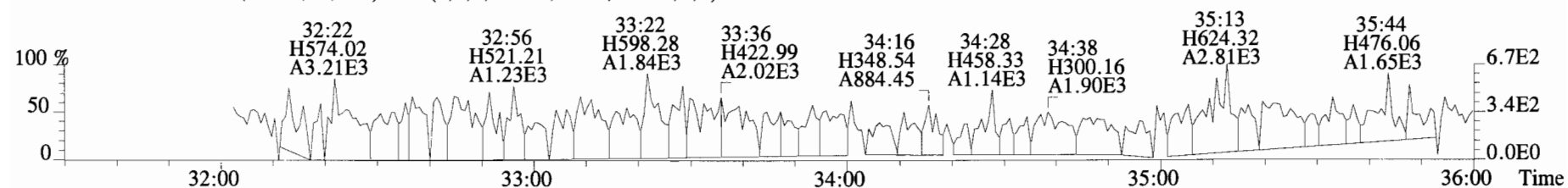
File:190712D1 #1-211 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



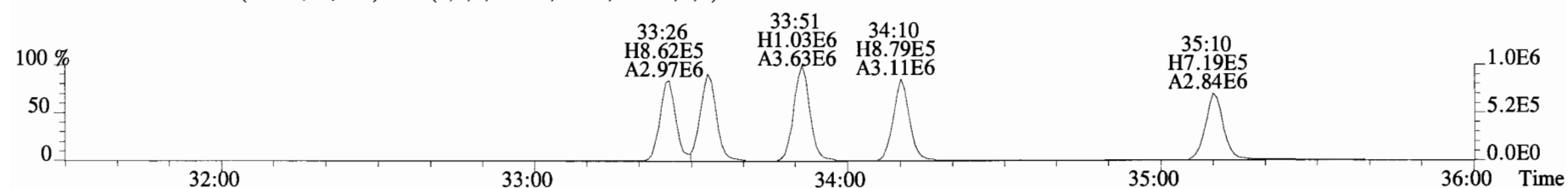
File:190712D1 #1-355 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista_Analytical_Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



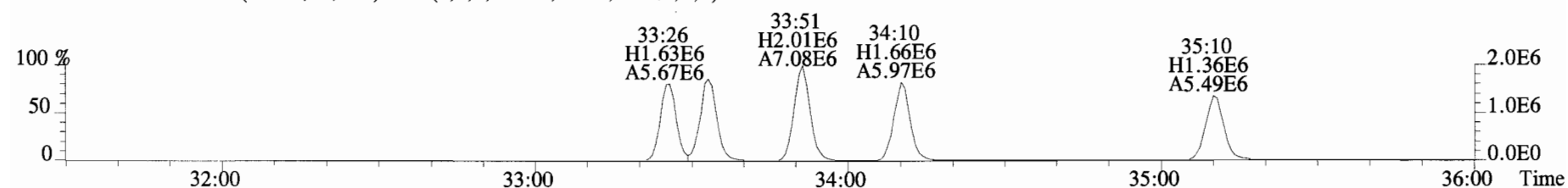
375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



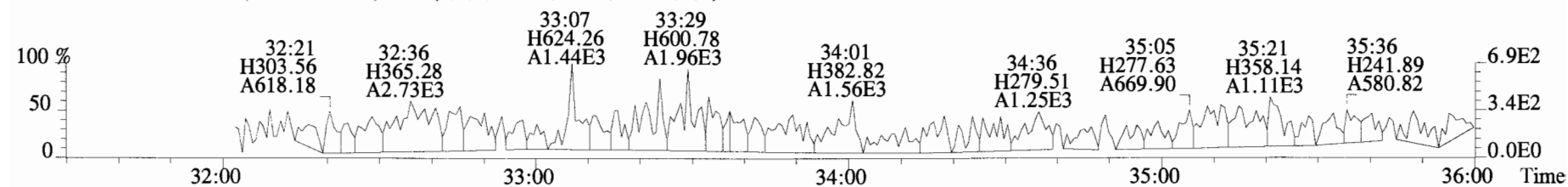
383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



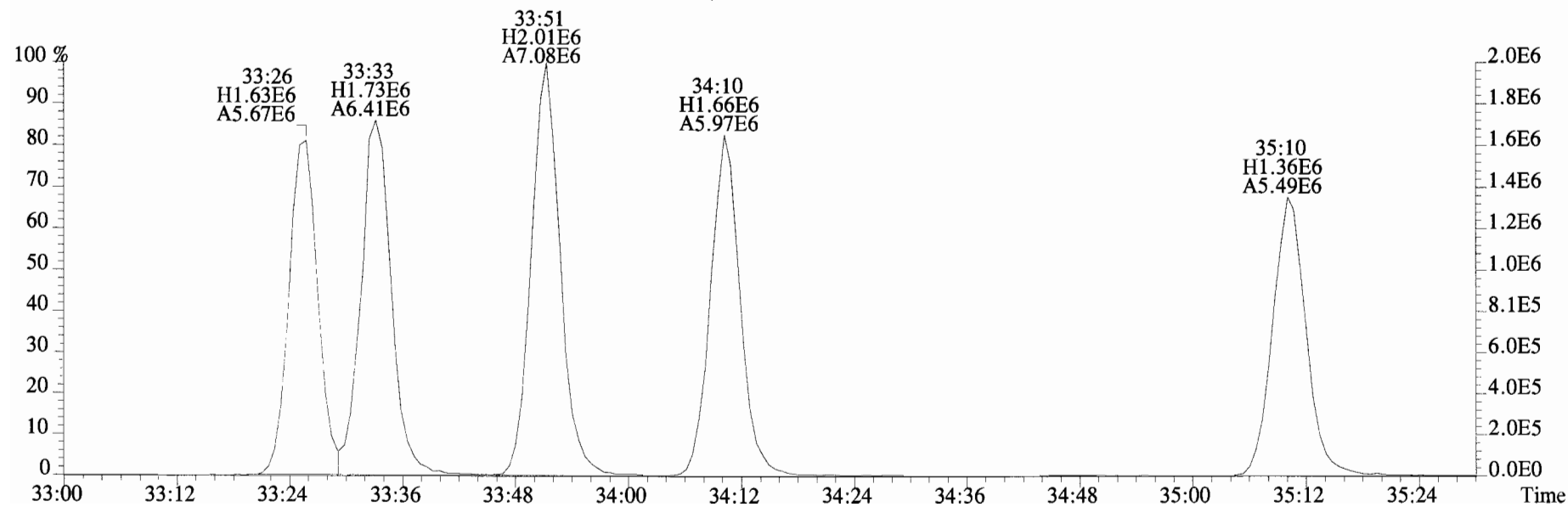
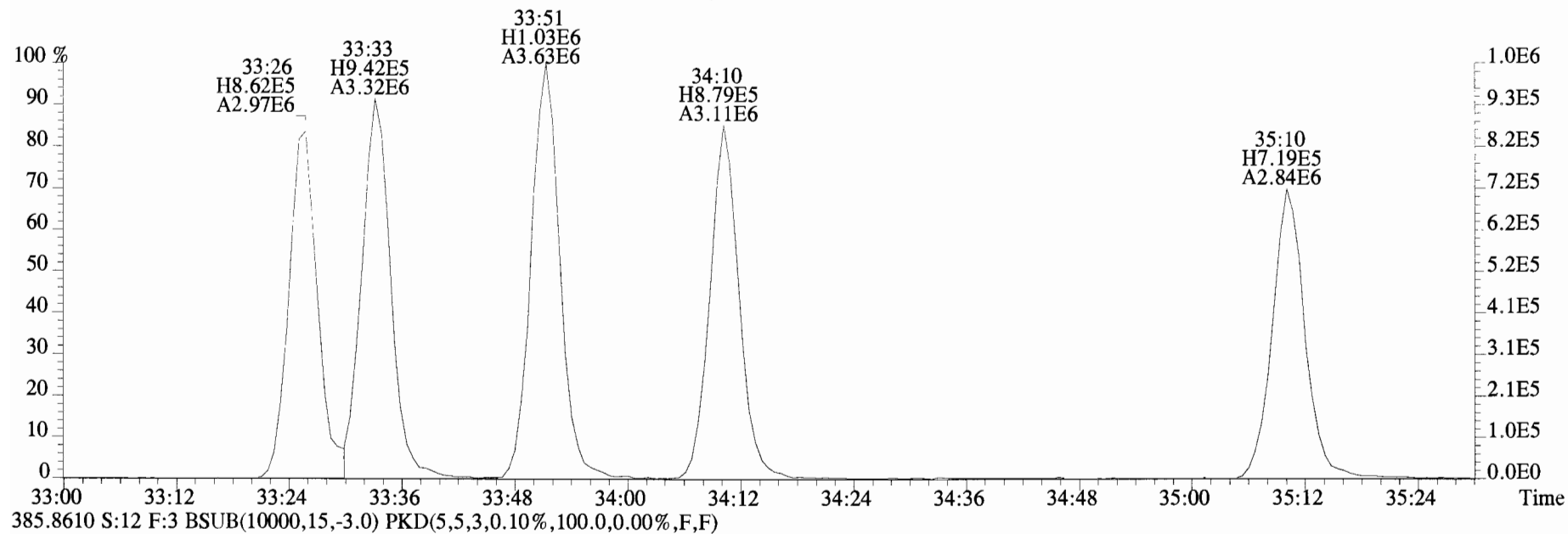
385.8610 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



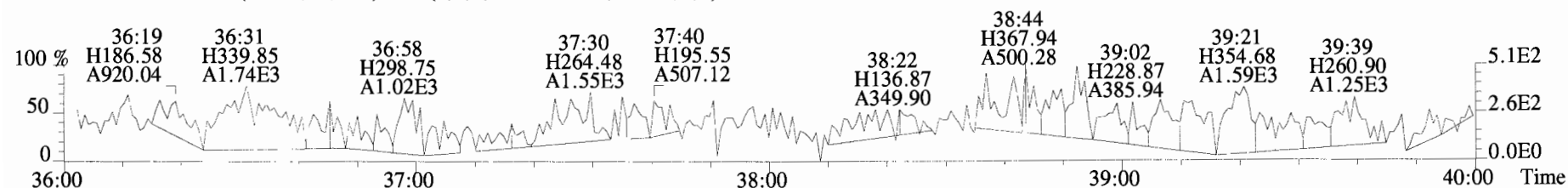
445.7555 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



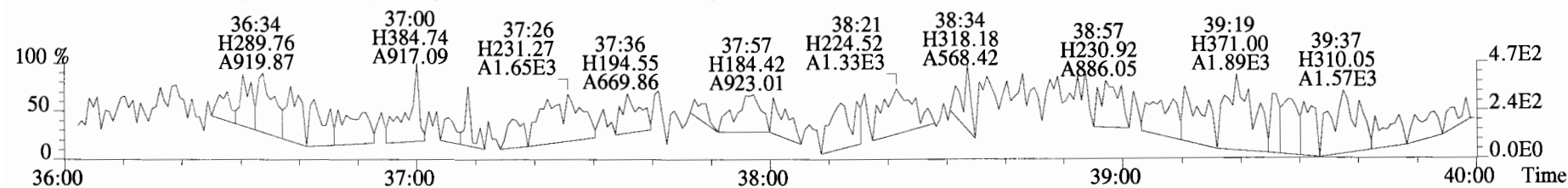
File:190712D1 #1-355 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
 383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



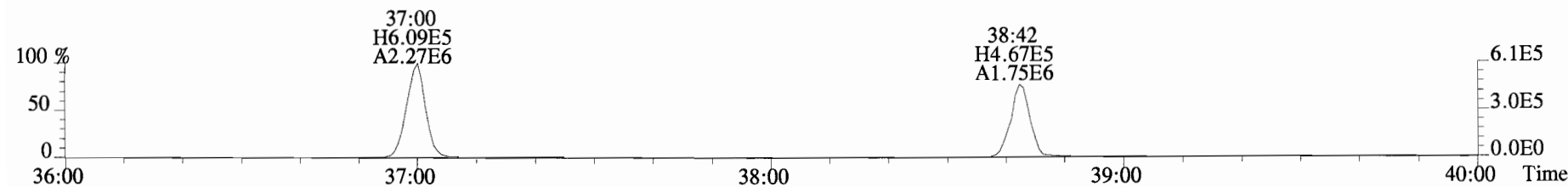
File:190712D1 #1-355 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#12 File Text:Vista Analytical Laboratory VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
 407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



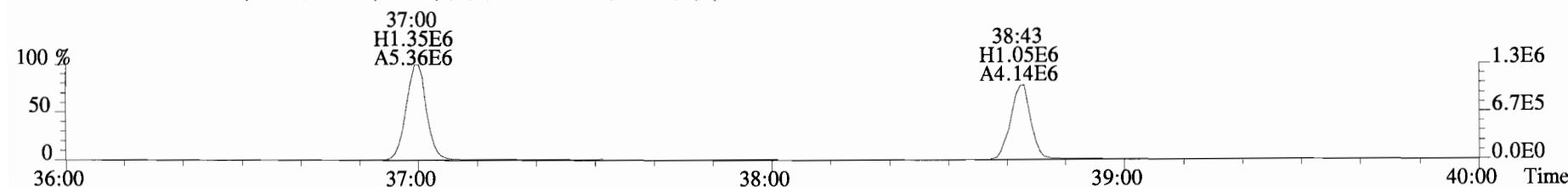
409.7788 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



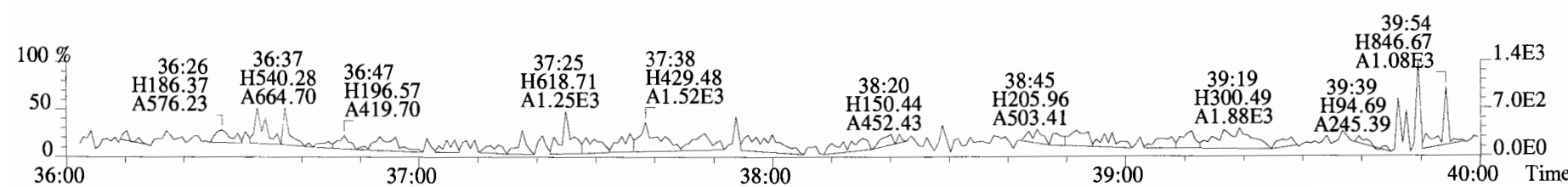
417.8253 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



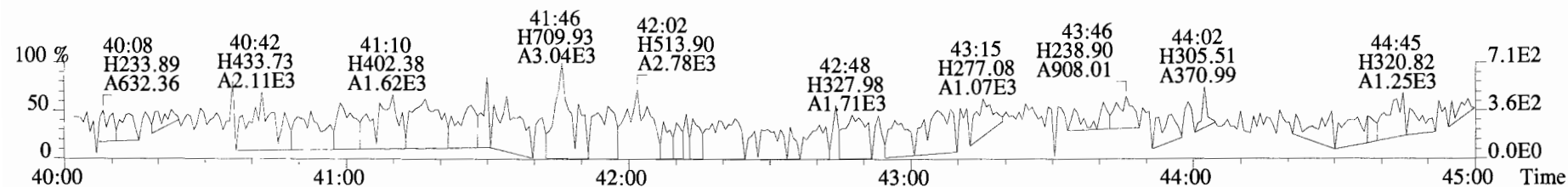
419.8220 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



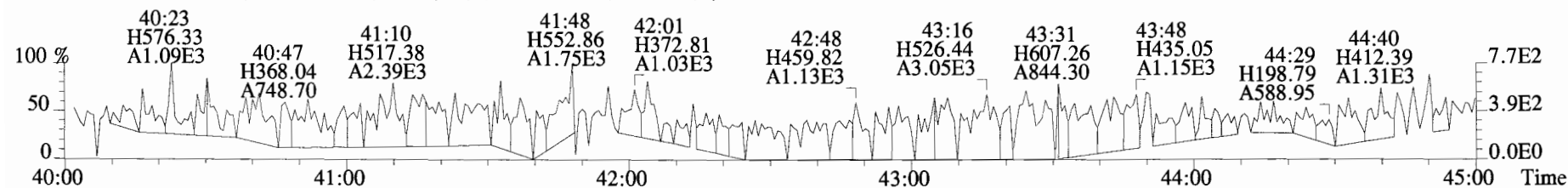
479.7165 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



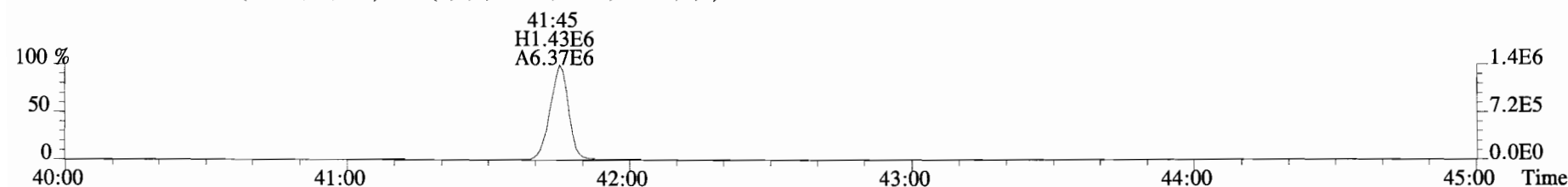
File:190712D1 #1-432 Acq:12-JUL-2019 22:19:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory_VG7 Text:B9G0073-DUP1 Duplicate 7.32 Exp:OCDD_DB5
441.7428 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



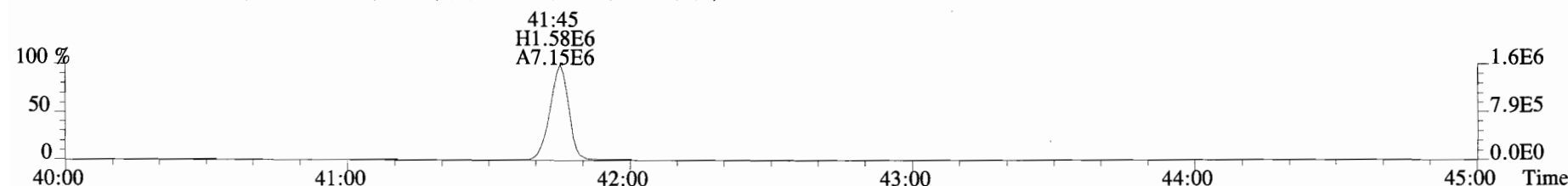
443.7398 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



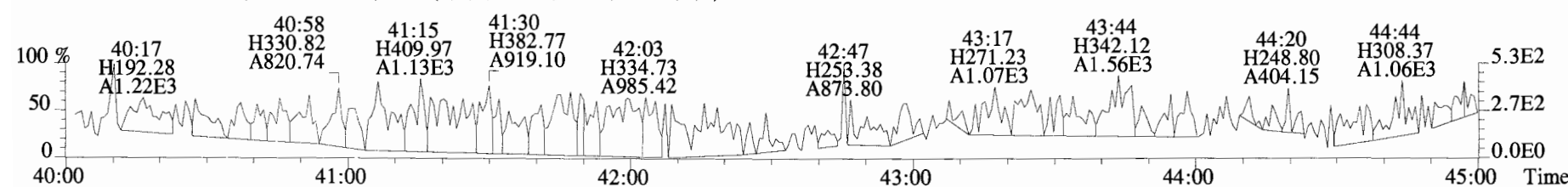
453.7831 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC19-190521 Filename: 190627D2 S:8 Acq:28-JUN-19 10:41:03
 Lab ID: 1901246-15 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.002

ConCal: ST190627D2-1
 EndCAL: NA

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	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	*	* n	0.90	NotF	*		228	2.5	0.302	Total Tetra-Dioxins	*	*		228	0.302
	1,2,3,7,8-PeCDD	*	* n	0.87	NotF	*		207	2.5	0.247	Total Penta-Dioxins	*	*		207	0.247
	1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF	*		348	2.5	0.495	Total Hexa-Dioxins	1.08	1.08		*	*
	1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF	*		348	2.5	0.458	Total Hepta-Dioxins	3.16	3.16		*	*
	1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF	*		348	2.5	0.501	Total Tetra-Furans	*	*		272	0.272
	1,2,3,4,6,7,8-HpCDD	2.18e+04	1.08 y	0.99	37:39	1.1744		*	2.5	*	Total Penta-Furans	0.0000	0.0000		187	0.234
	OCDD	1.96e+05	0.83 y	0.99	40:56	12.449		*	2.5	*	Total Hexa-Furans	*	*		168	0.114
											Total Hepta-Furans	*	*		163	0.133
	2,3,7,8-TCDF	*	* n	0.94	NotF	*		272	2.5	0.272						
	1,2,3,7,8-PeCDF	*	* n	0.92	NotF	*		187	2.5	0.225						
	2,3,4,7,8-PeCDF	*	* n	0.96	NotF	*		187	2.5	0.243						
	1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF	*		168	2.5	0.0928						
	1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF	*		168	2.5	0.0972						
	2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF	*		168	2.5	0.0964						
	1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF	*		168	2.5	0.177						
	1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF	*		163	2.5	0.130						
	1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF	*		163	2.5	0.135						
	OCDF	*	* n	0.94	NotF	*		200	2.5	0.244						
IS	13C-2,3,7,8-TCDD	6.50e+06	0.78 y	1.11	26:03	231.25					Rec					
IS	13C-1,2,3,7,8-PeCDD	5.71e+06	0.62 y	0.98	30:31	230.16					57.8					
IS	13C-1,2,3,4,7,8-HxCDD	5.48e+06	1.29 y	0.68	33:48	283.49					57.6					
IS	13C-1,2,3,6,7,8-HxCDD	7.14e+06	1.25 y	0.84	33:54	296.46					70.9					
IS	13C-1,2,3,7,8,9-HxCDD	7.31e+06	1.25 y	0.81	34:13	314.38					74.1					
IS	13C-1,2,3,4,6,7,8-HpCDD	7.52e+06	1.05 y	0.69	37:40	382.86					78.6					
IS	13C-OCDD	1.28e+07	0.91 y	0.62	40:56	712.55					95.8					
IS	13C-2,3,7,8-TCDF	8.97e+06	0.82 y	1.05	25:18	210.39					89.1					
IS	13C-1,2,3,7,8-PeCDF	8.61e+06	1.58 y	0.95	29:22	222.73					52.6					
IS	13C-2,3,4,7,8-PeCDF	7.89e+06	1.63 y	0.94	30:15	208.11					55.7					
IS	13C-1,2,3,4,7,8-HxCDF	7.64e+06	0.52 y	0.86	32:55	311.25					52.0					
IS	13C-1,2,3,6,7,8-HxCDF	9.31e+06	0.50 y	1.02	33:03	318.08					77.8					
IS	13C-2,3,4,6,7,8-HxCDF	9.08e+06	0.51 y	0.95	33:39	333.05					79.6					
IS	13C-1,2,3,7,8,9-HxCDF	8.07e+06	0.51 y	0.87	34:38	325.00					83.3					
IS	13C-1,2,3,4,6,7,8-HpCDF	8.45e+06	0.45 y	0.81	36:26	365.18					81.3					
IS	13C-1,2,3,4,7,8,9-HpCDF	6.54e+06	0.43 y	0.63	38:14	361.15					91.3					
IS	13C-OCDF	1.61e+07	0.89 y	0.78	41:10	718.33					90.3					
C/Up	37Cl-2,3,7,8-TCDD	2.23e+06		1.22	26:04	71.950					89.8					
RS/RT	13C-1,2,3,4-TCDD	1.02e+07	0.80 y	1.00	25:27	399.83					45.0					
RS	13C-1,2,3,4-TCDF	1.62e+07	0.81 y	1.00	24:03	399.83										
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.15e+07	0.51 y	1.00	33:20	399.83										

Integrations
 by DB
 Analyst: C:7
 Date: 8/8/19
 Reviewed
 by C:7
 Analyst: C:7
 Date: 08/08/19

Totals class: HxCDD EMPC

Entry #: 23

Run: 13

File: 190627D2

S: 8 I: 1 F: 3

Acquired: 28-JUN-19 10:41:03

Processed: 28-JUN-19 14:14:12

Total Concentration: 1.0847

Unnamed Concentration: 1.085

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:17	9.346e+03	8.247e+03	1.13 y	1.759e+04	1.0847

Totals class: HpCDD EMPC

Entry #: 25

Run: 13

File: 190627D2

S: 8 I: 1 F: 4

Acquired: 28-JUN-19 10:41:03

Processed: 28-JUN-19 14:14:12

Total Concentration: 3.1552

Unnamed Concentration: 1.981

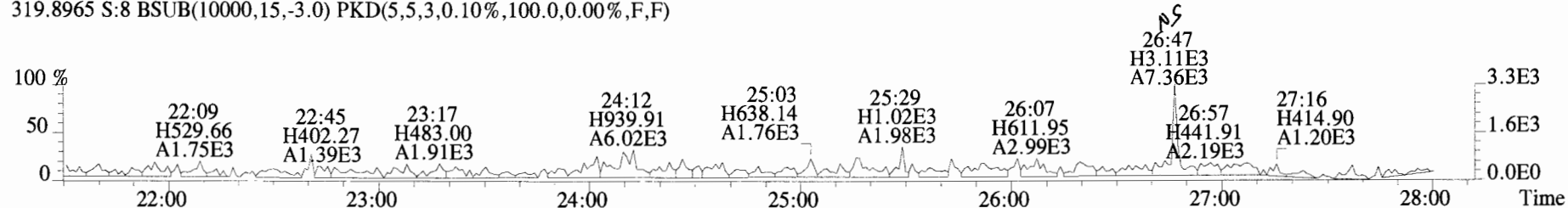
RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:50	1.932e+04	1.751e+04	1.10 y	3.683e+04	1.9808
37:39	1.132e+04	1.052e+04	1.08 y	2.184e+04	1.1744

1,2,3,4,6,7,8-HpCDD

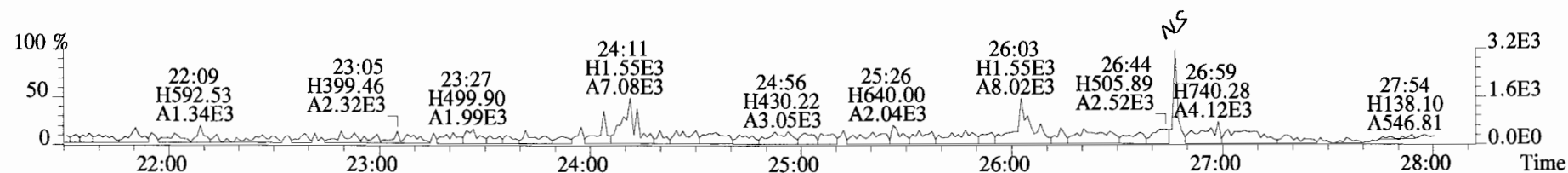
File:190627D2 #1-514 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE

Sample#8 File Text: Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5

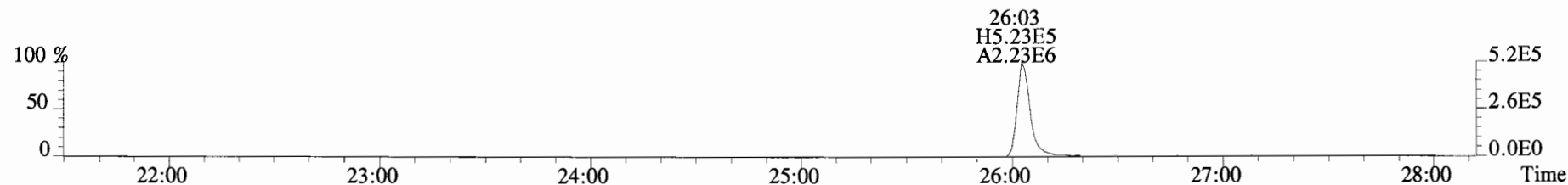
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



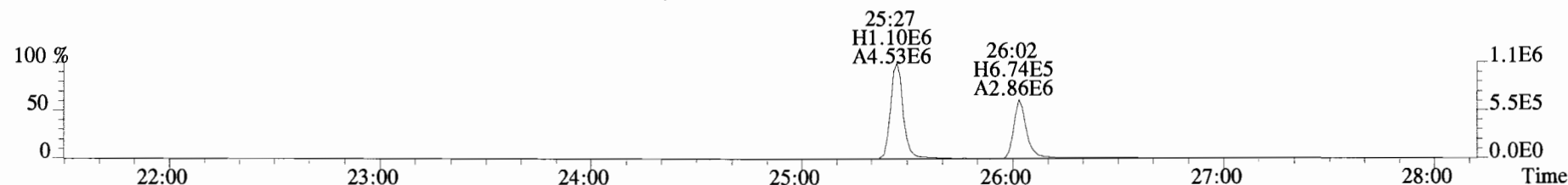
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



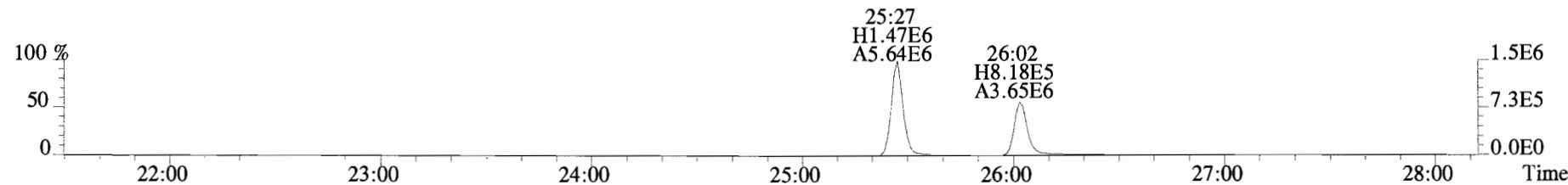
327.8847 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



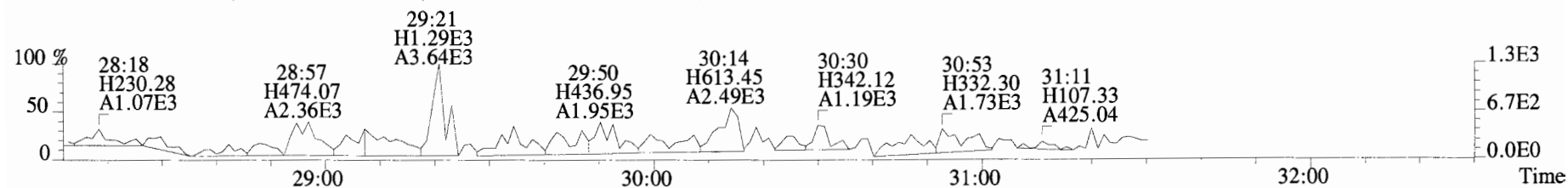
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



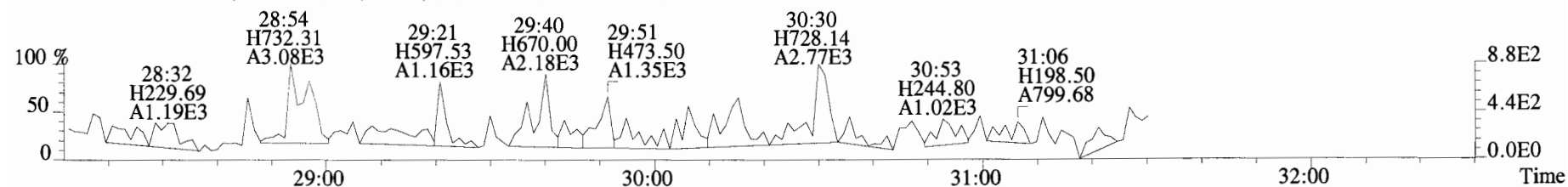
333.9339 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



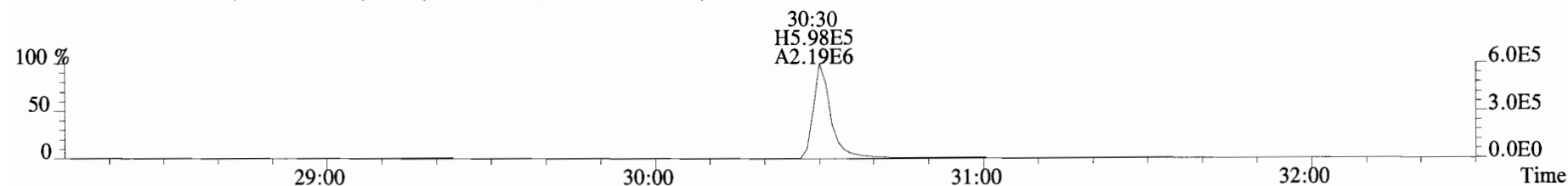
File:190627D2 #1-184 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text: Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
 353.8576 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



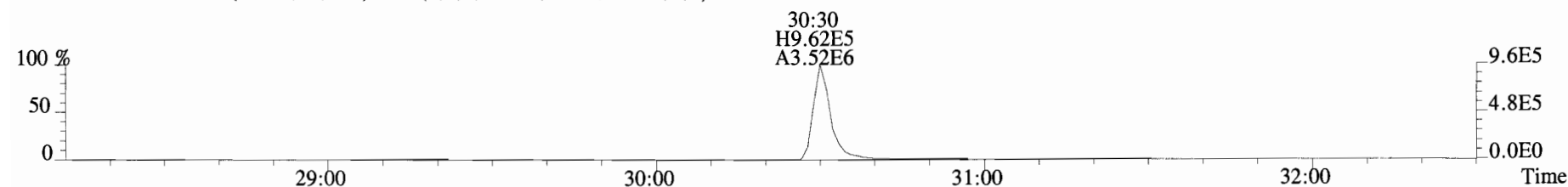
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



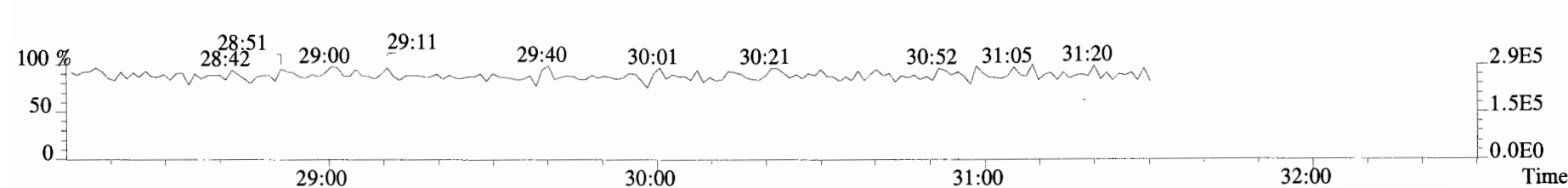
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



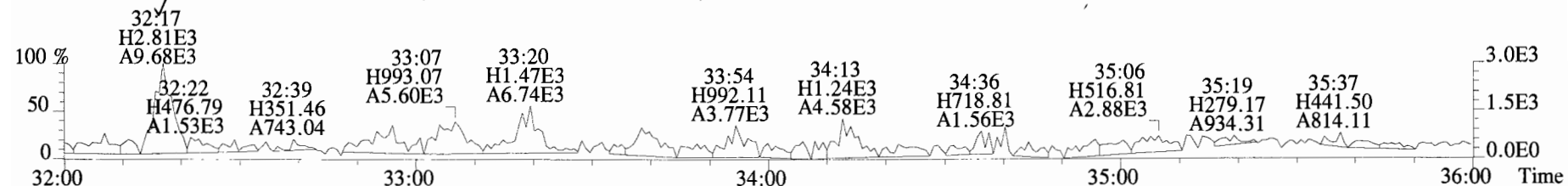
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



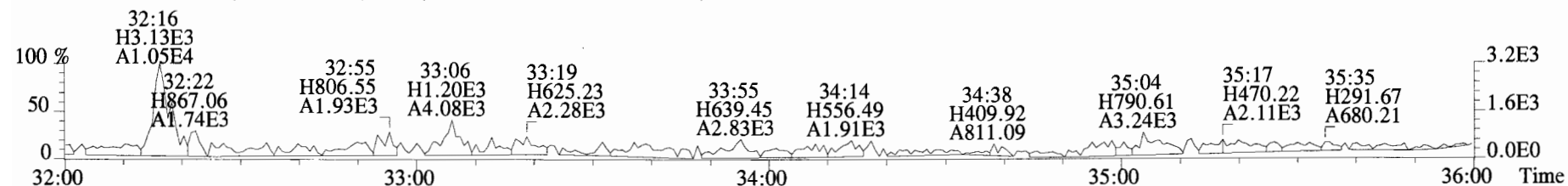
366.9792 S:8 F:2



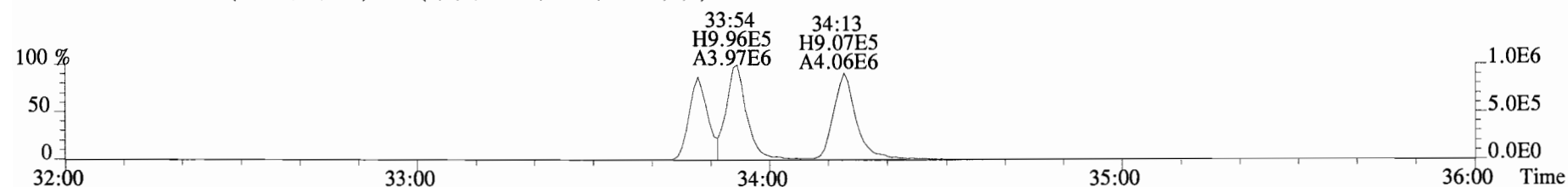
File:190627D2 #1-400 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



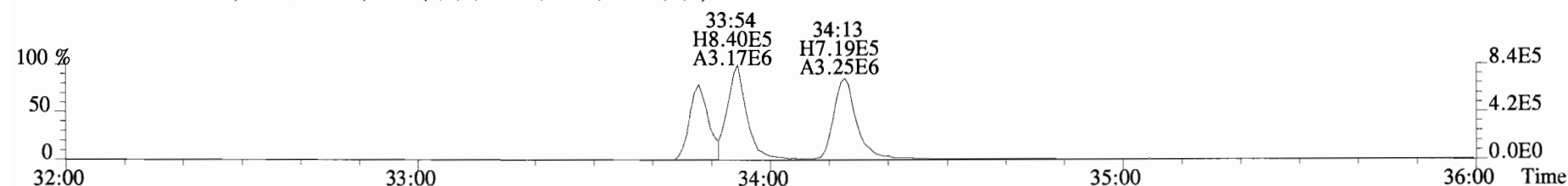
391.8127 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



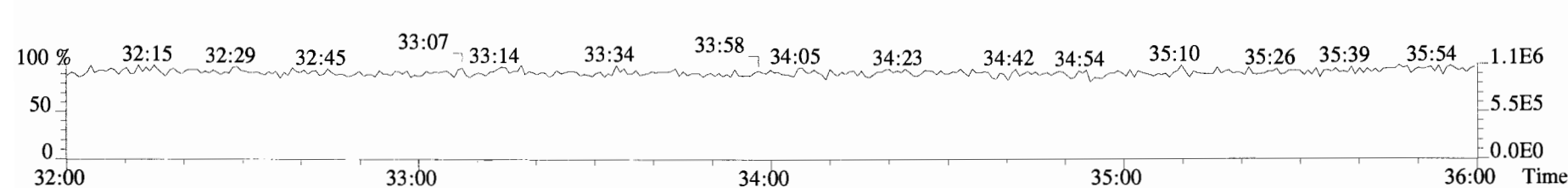
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



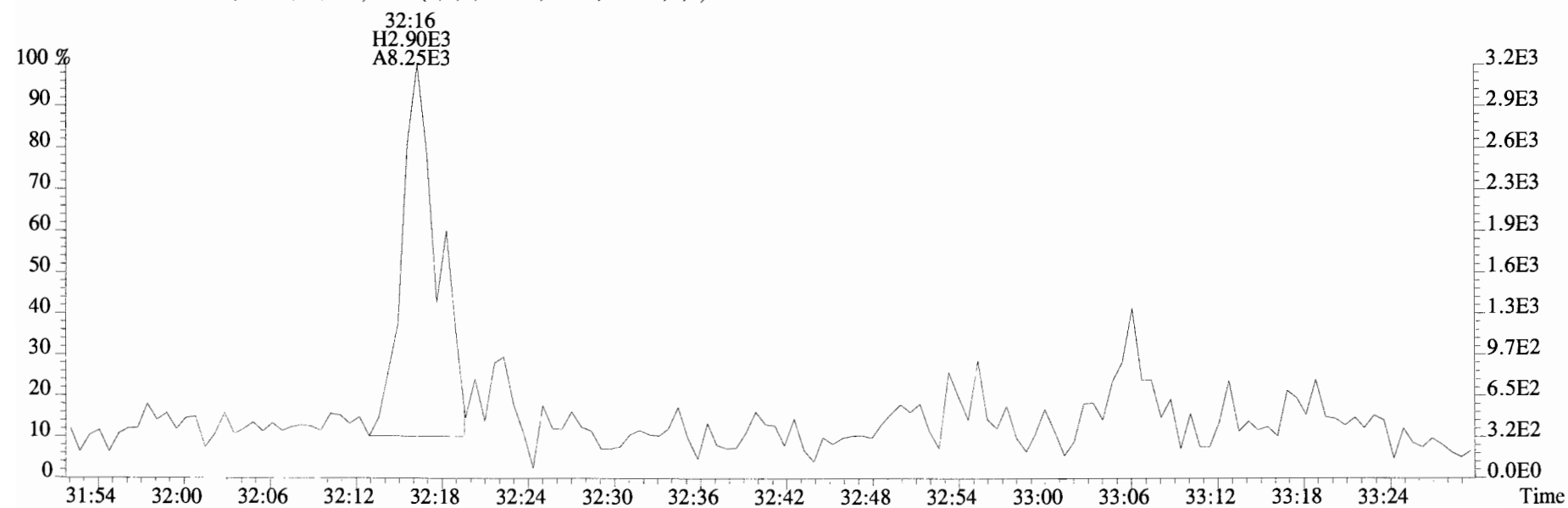
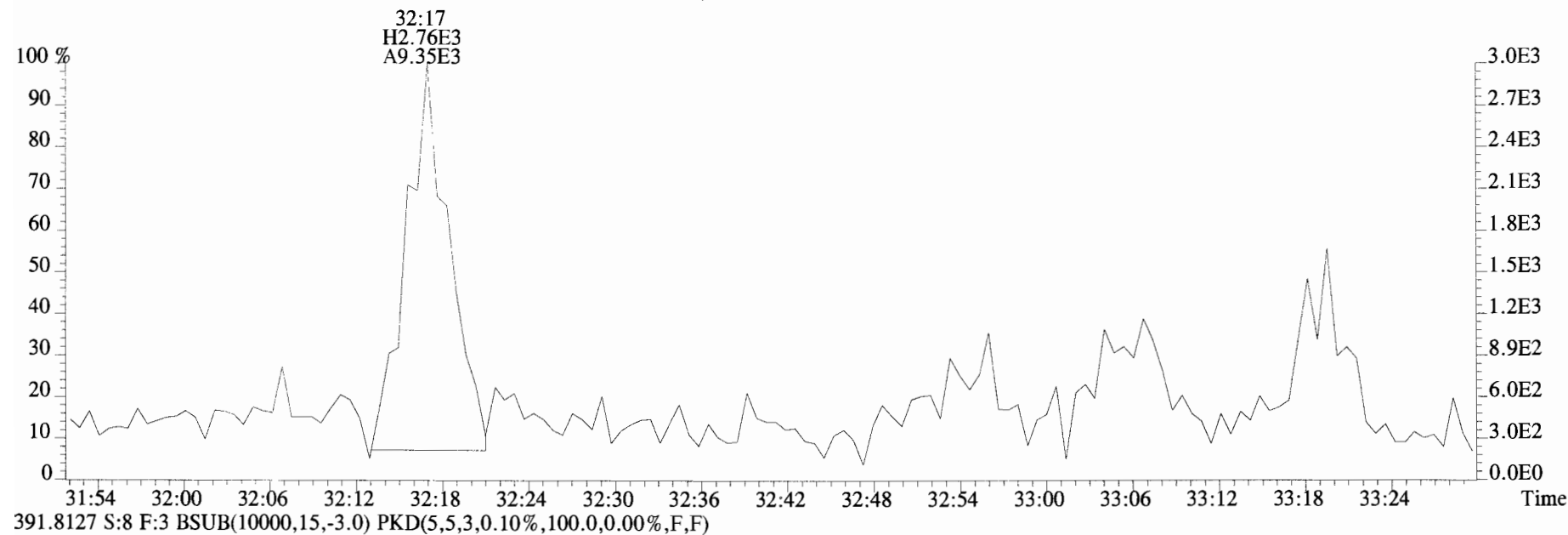
403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



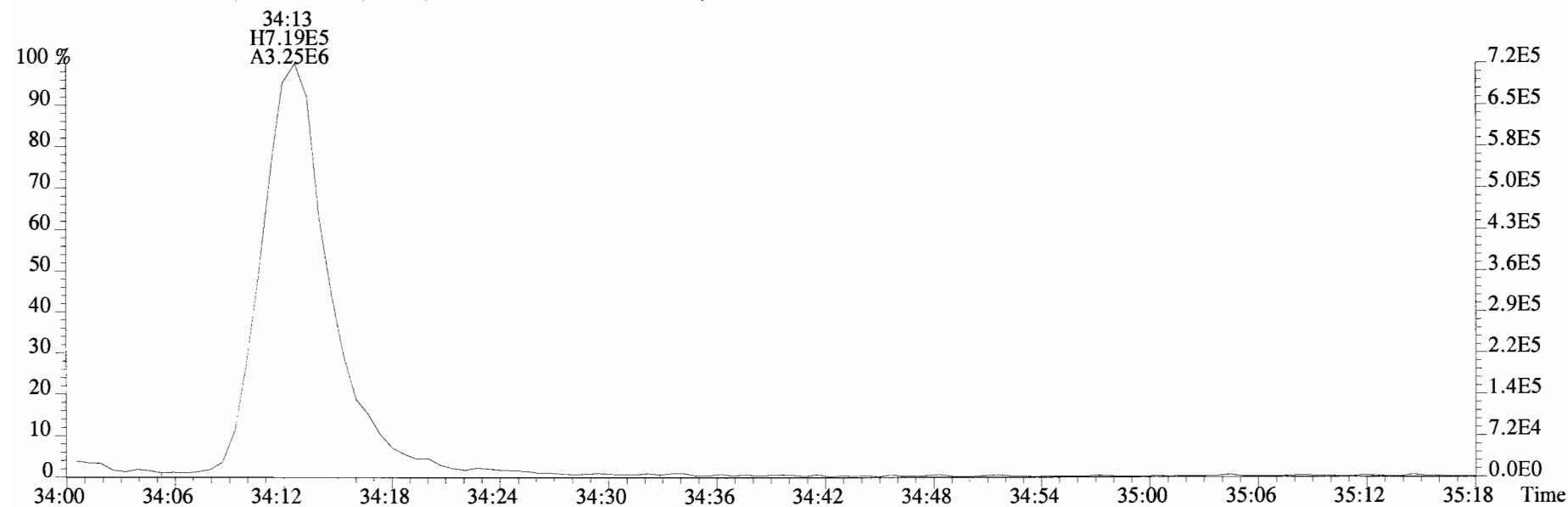
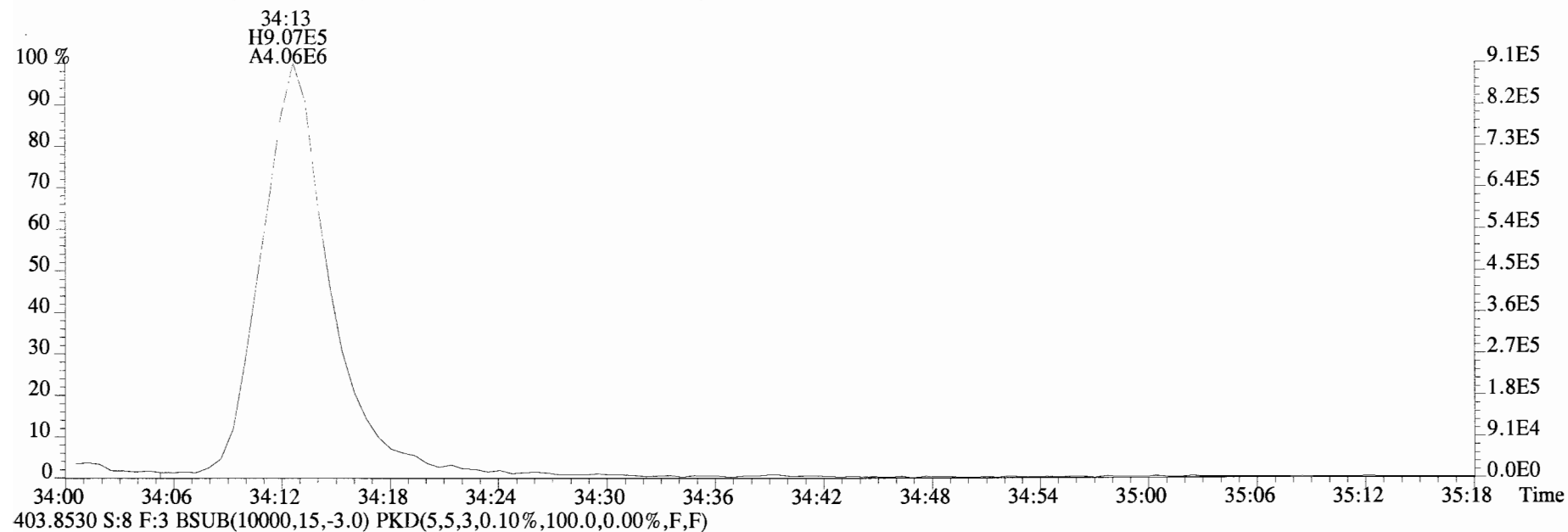
392.9760 S:8 F:3



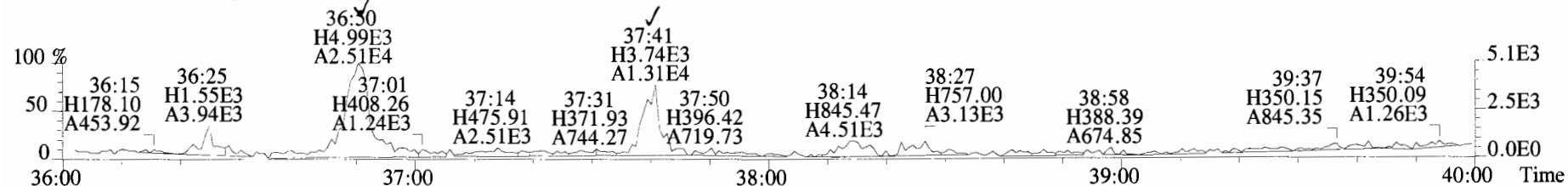
File:190627D2 #1-400 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



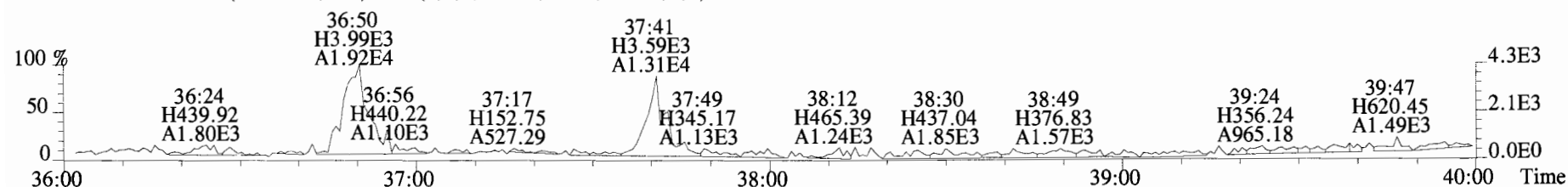
File:190627D2 #1-400 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



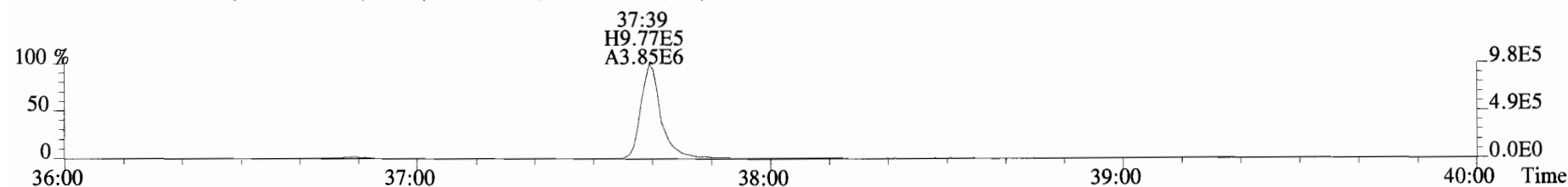
File:190627D2 #1-355 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



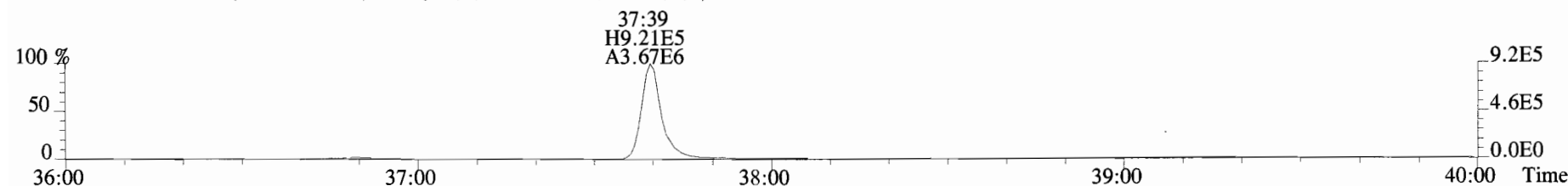
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



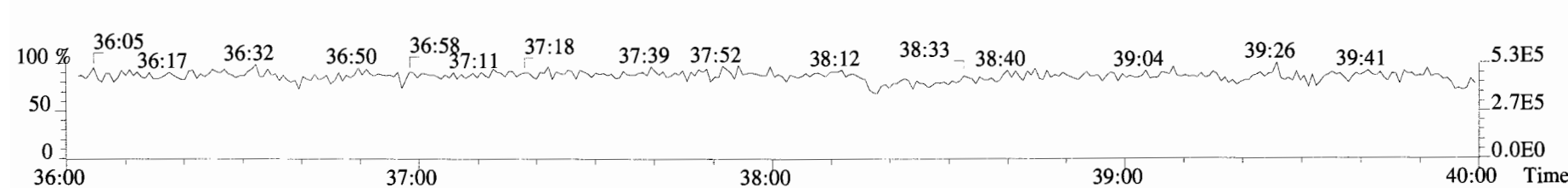
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



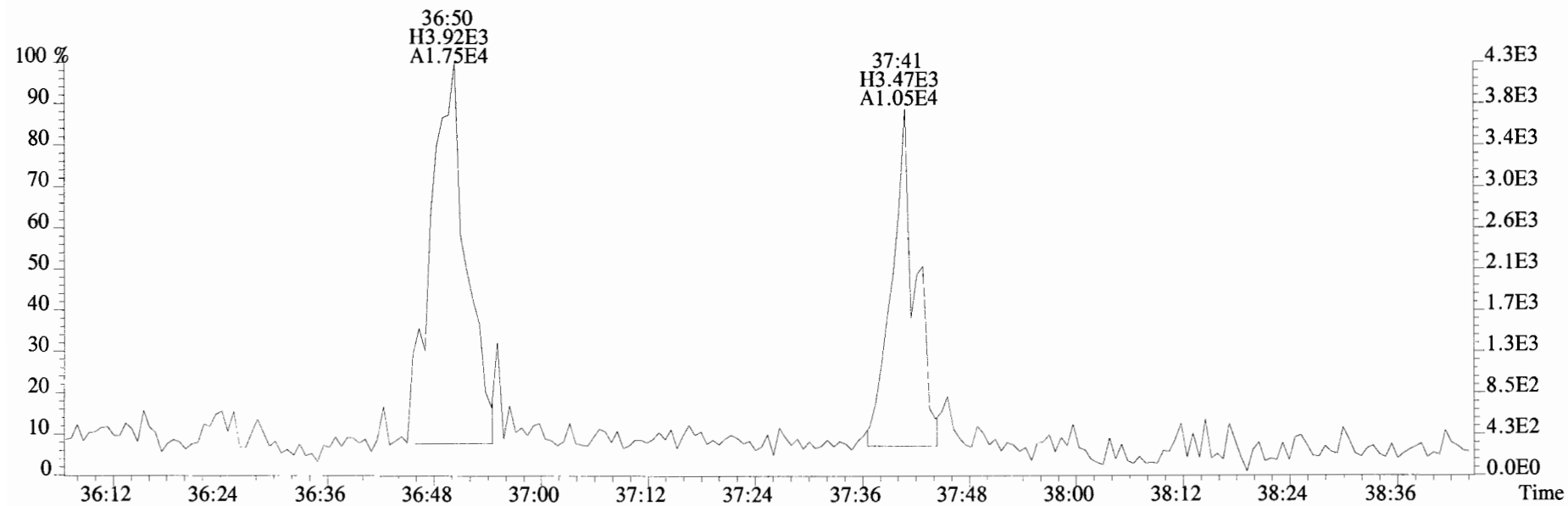
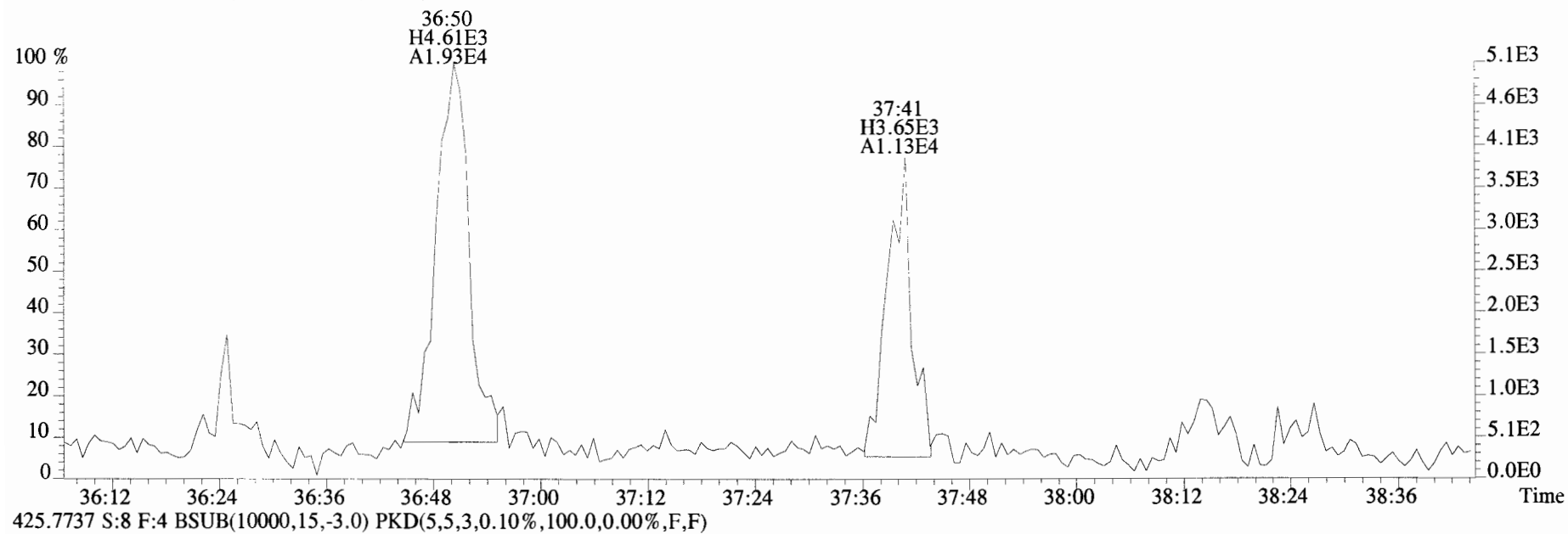
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



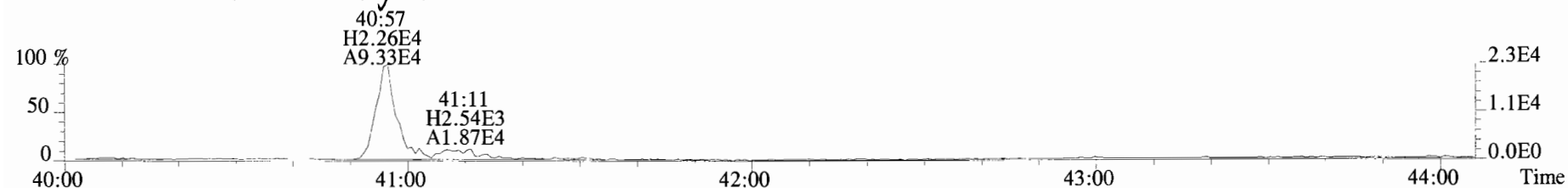
454.9728 S:8 F:4



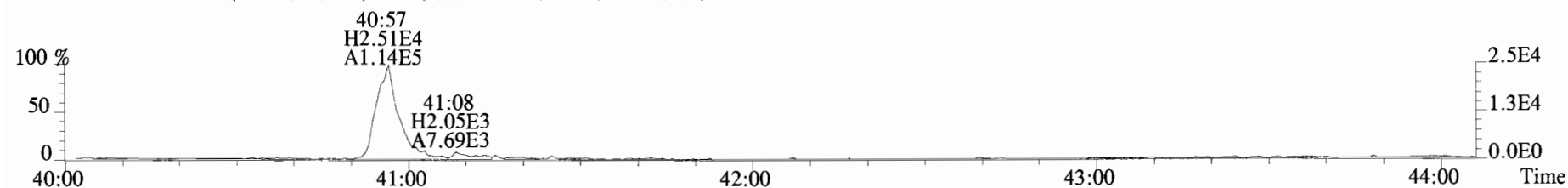
File:190627D2 #1-355 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



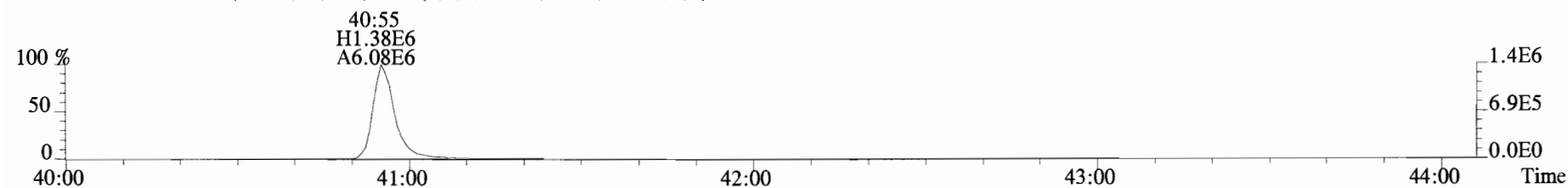
File:190627D2 #1-432 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



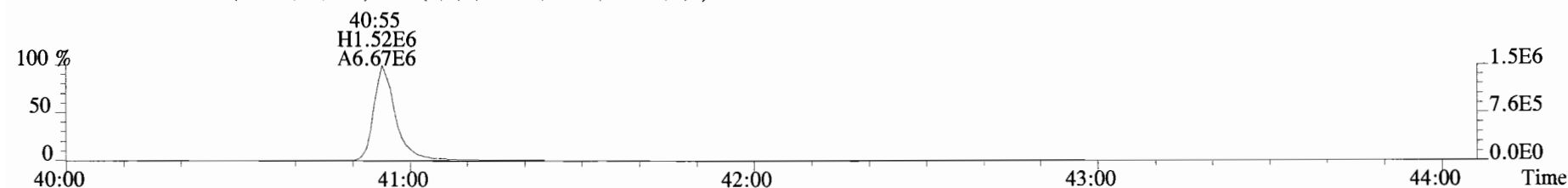
459.7348 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



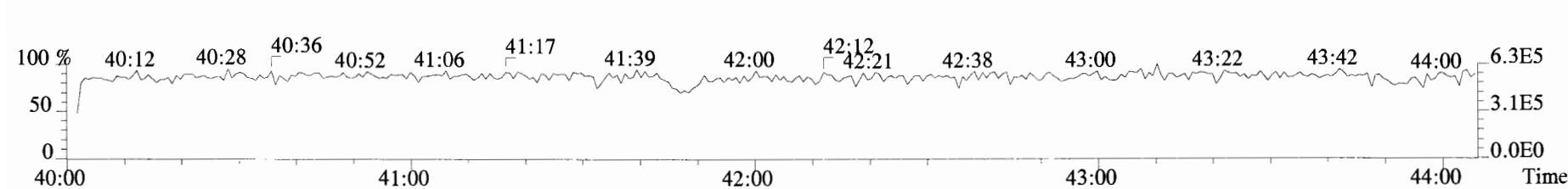
469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



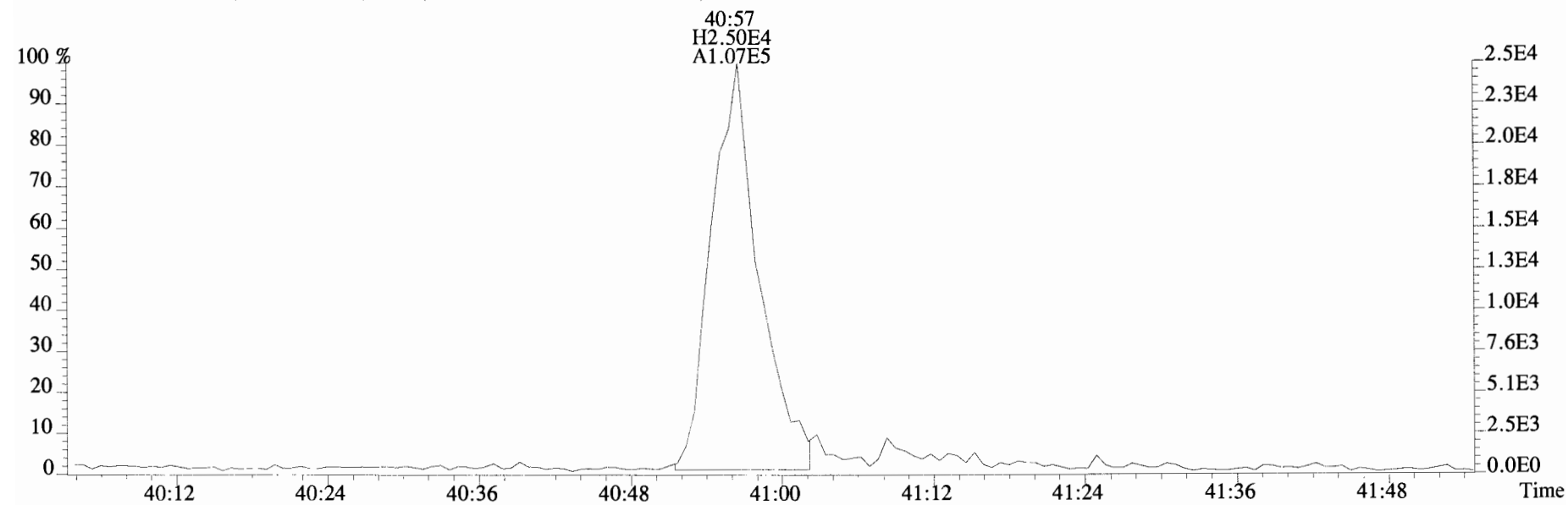
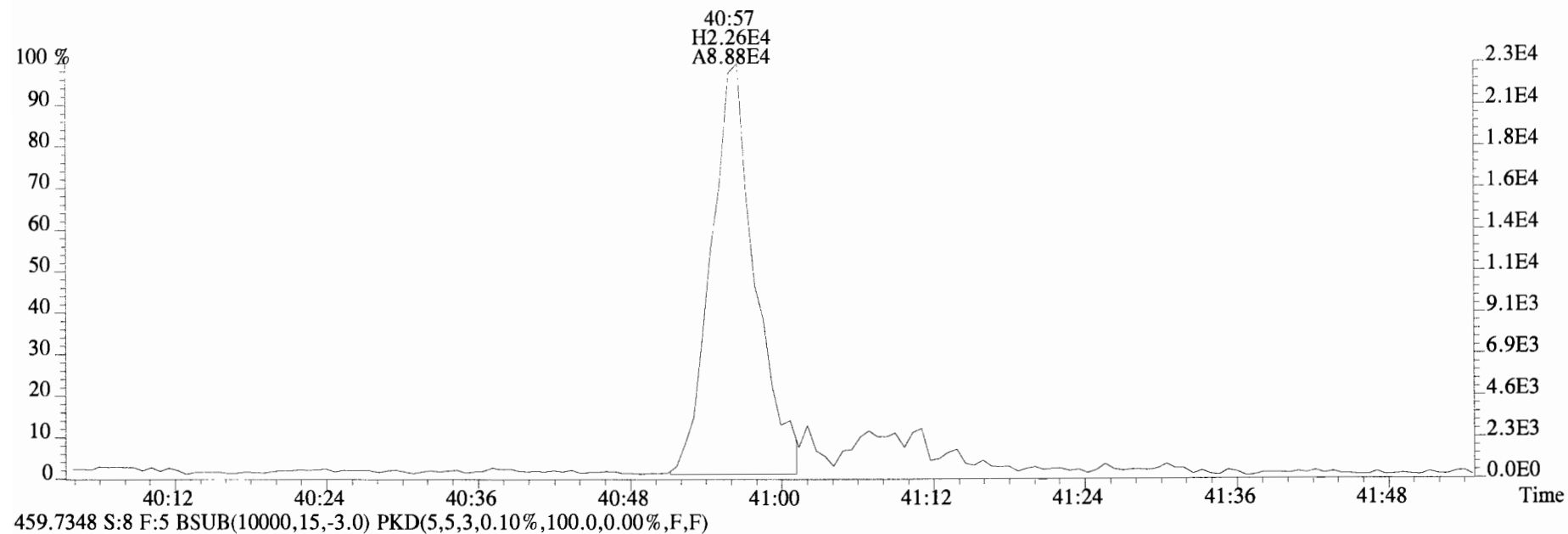
471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



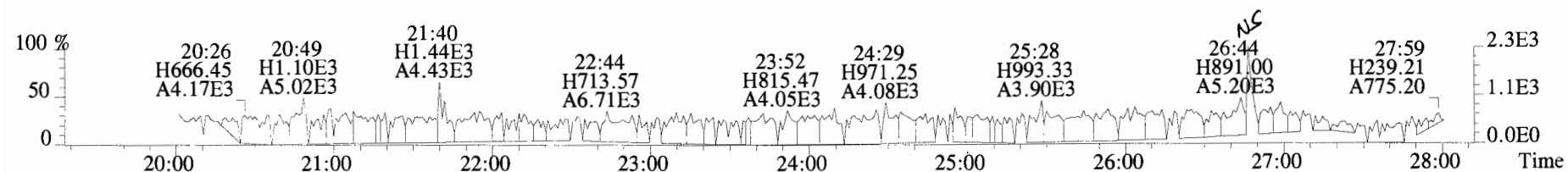
454.9728 S:8 F:5



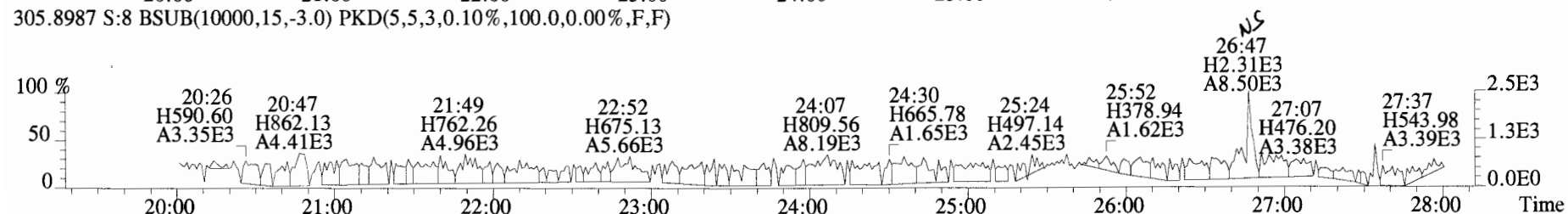
File:190627D2 #1-432 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



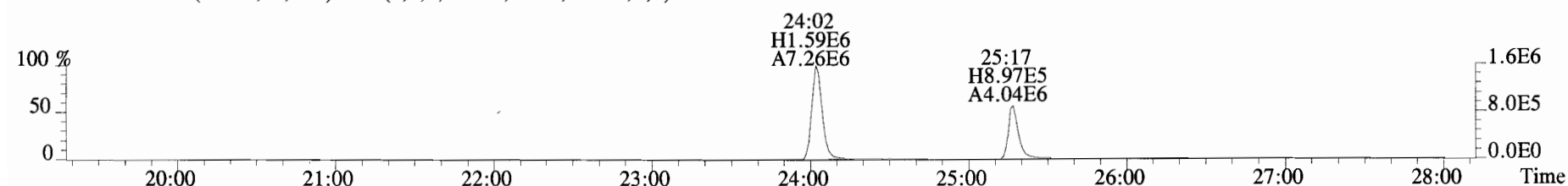
File:190627D2 #1-514 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



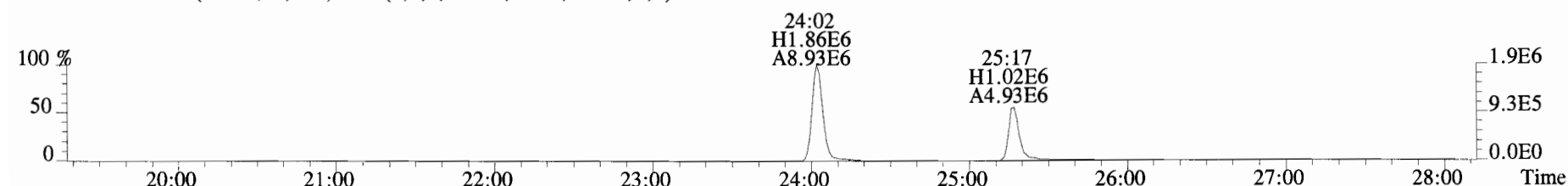
305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



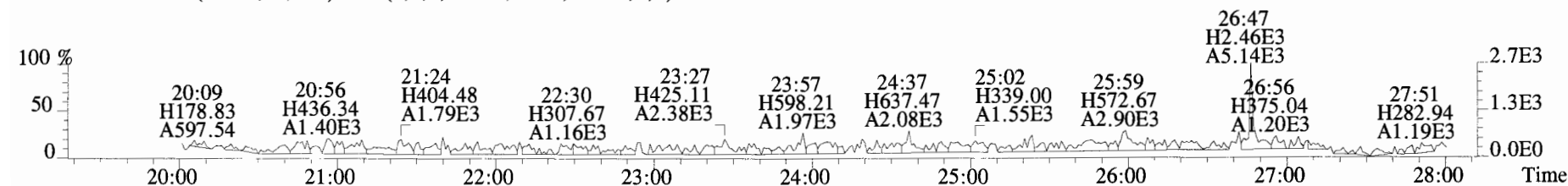
315.9419 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



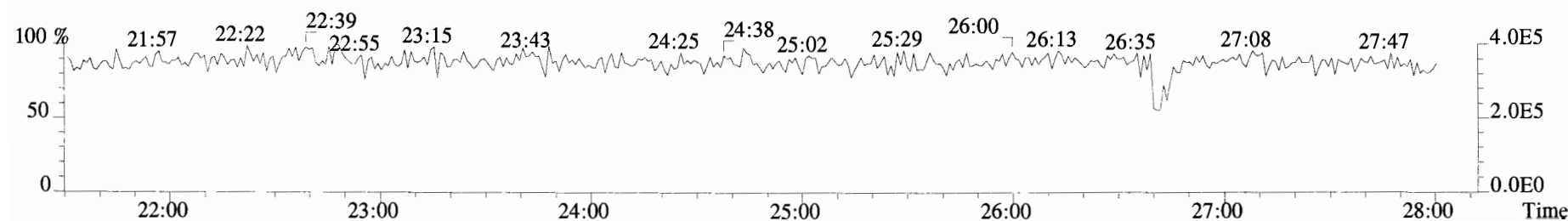
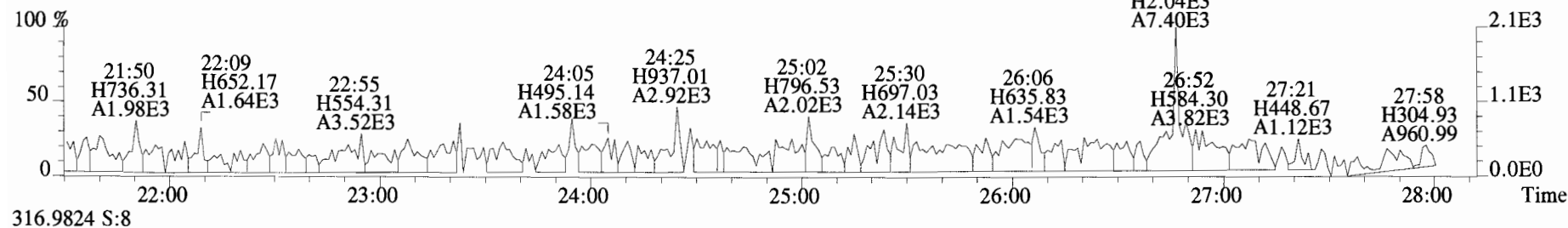
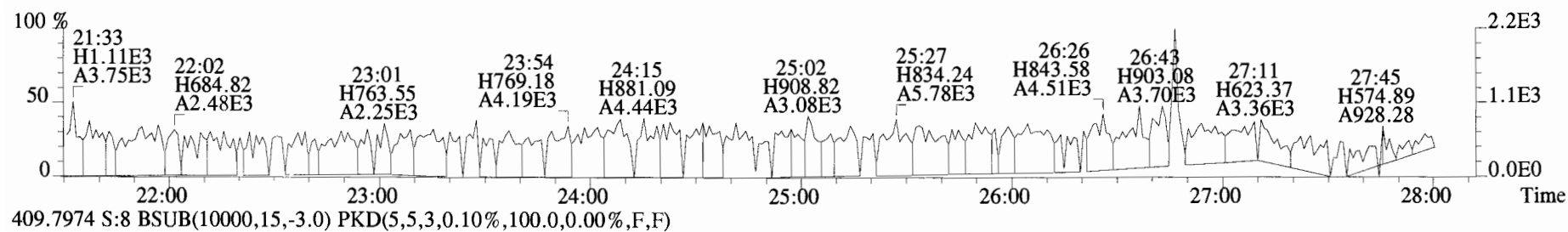
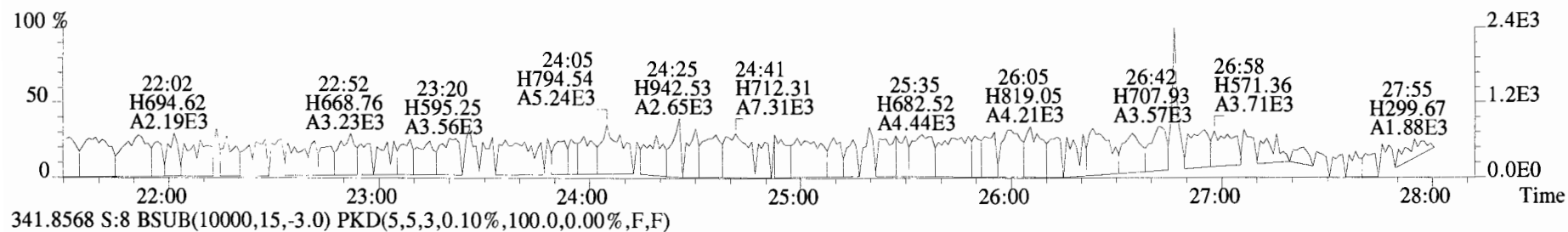
317.9389 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



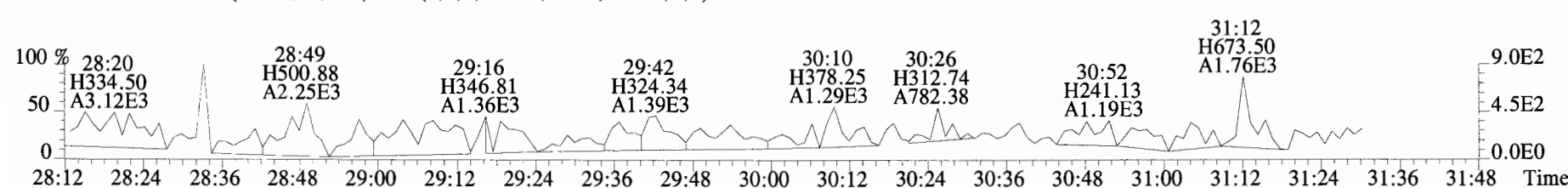
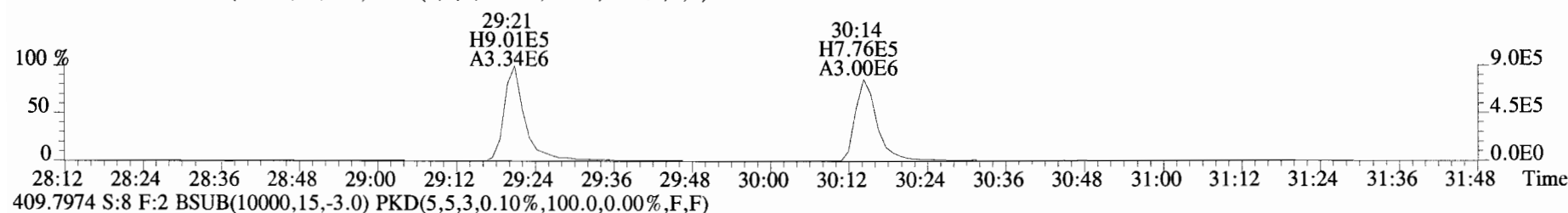
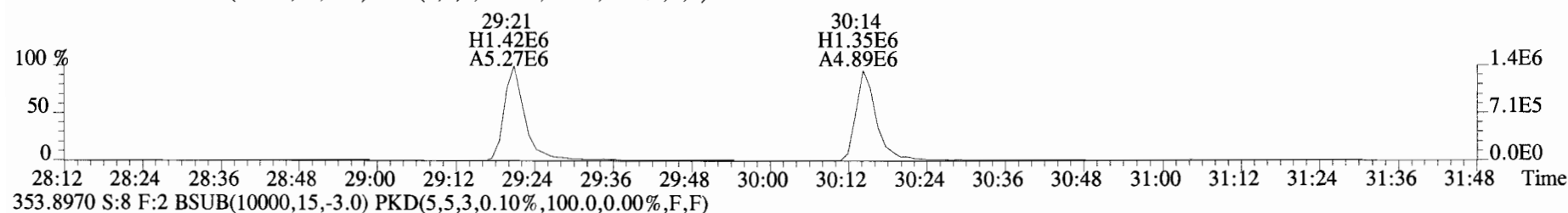
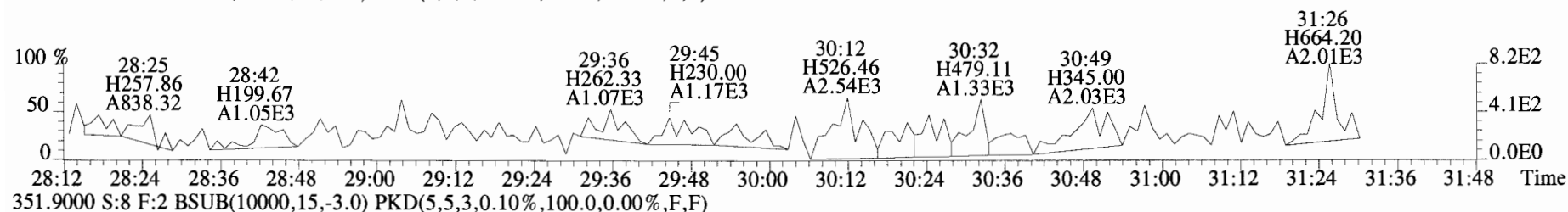
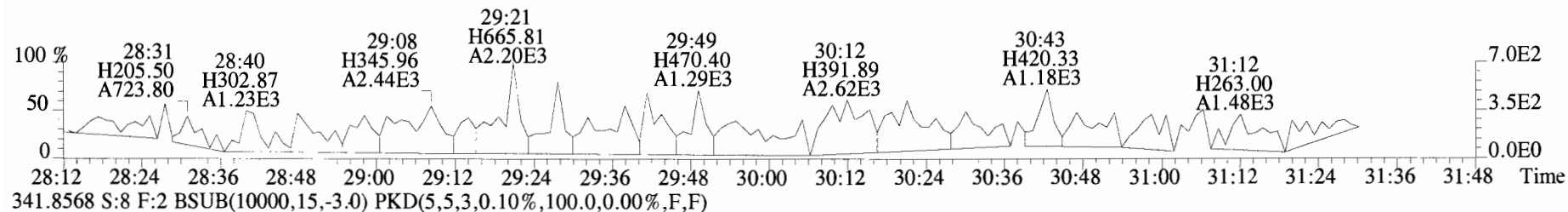
375.8364 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



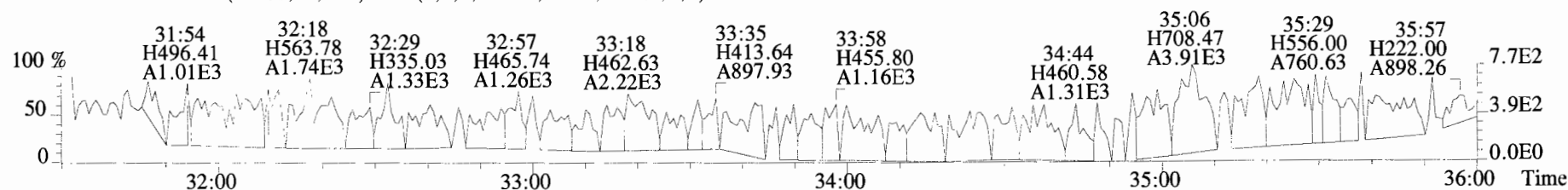
File:190627D2 #1-514 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



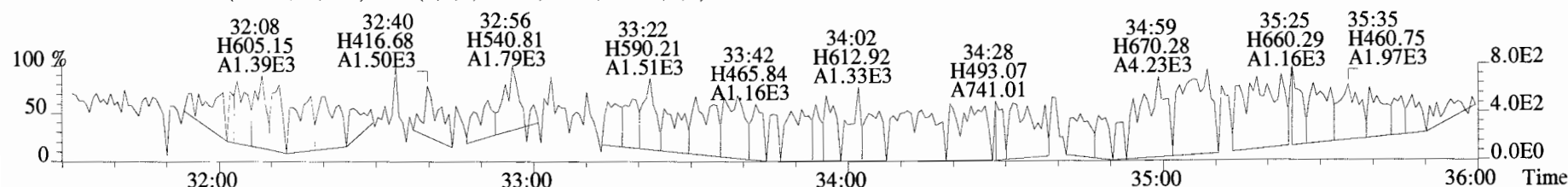
File:190627D2 #1-184 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text: Vista_Analytical_Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
 339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



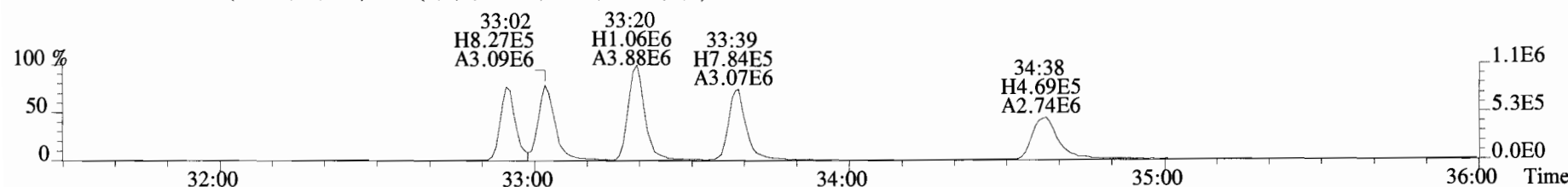
File:190627D2 #1-400 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



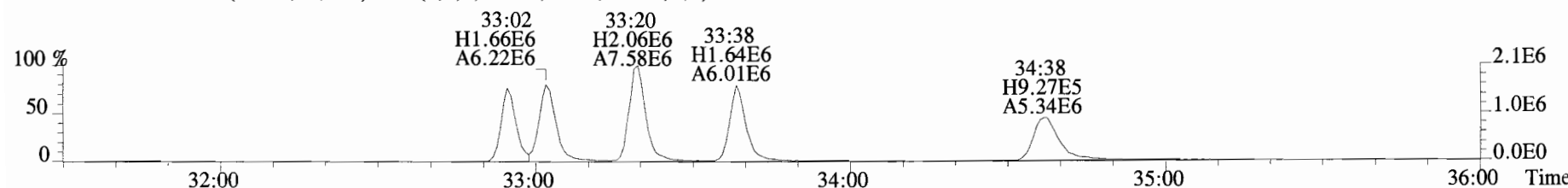
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



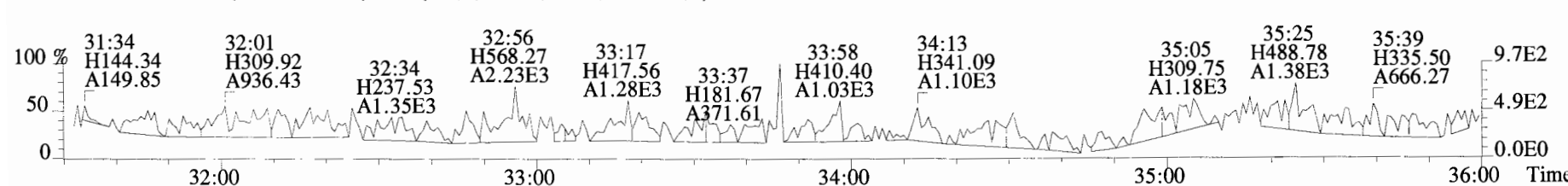
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



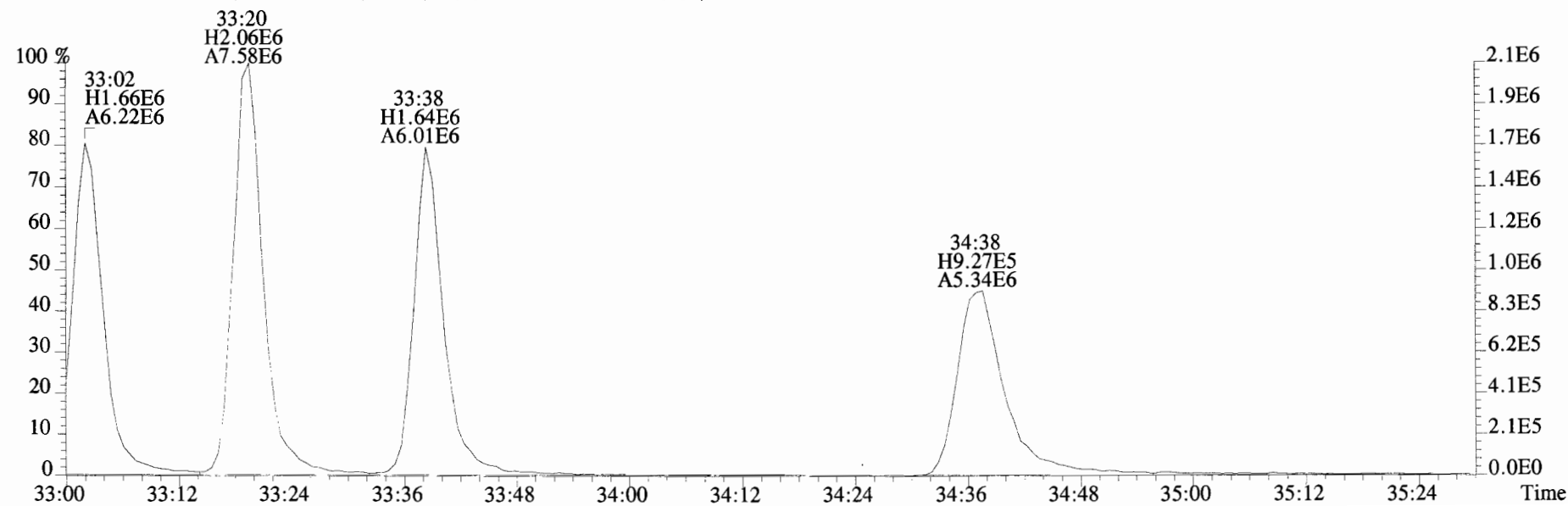
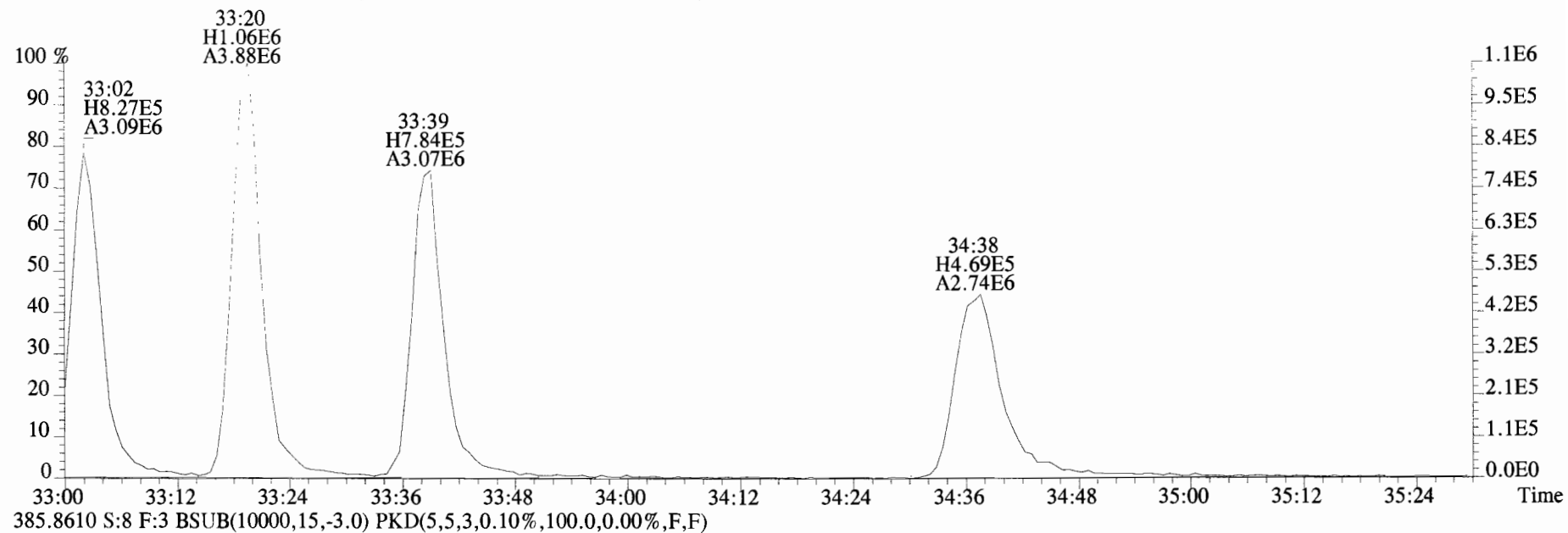
385.8610 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



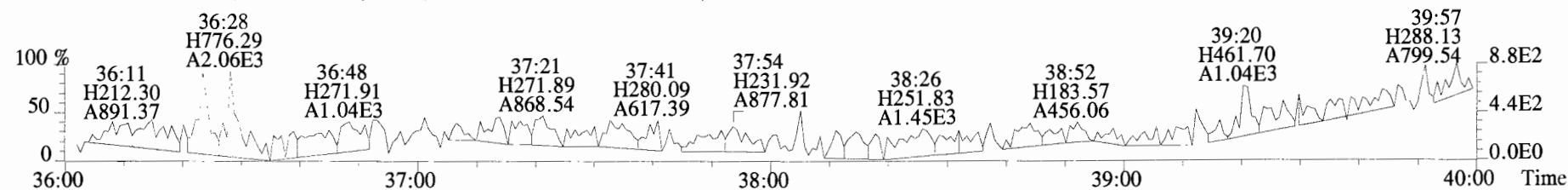
445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



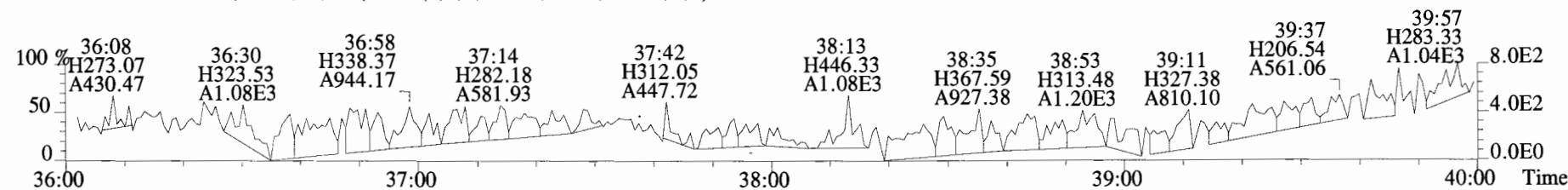
File:190627D2 #1-400 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



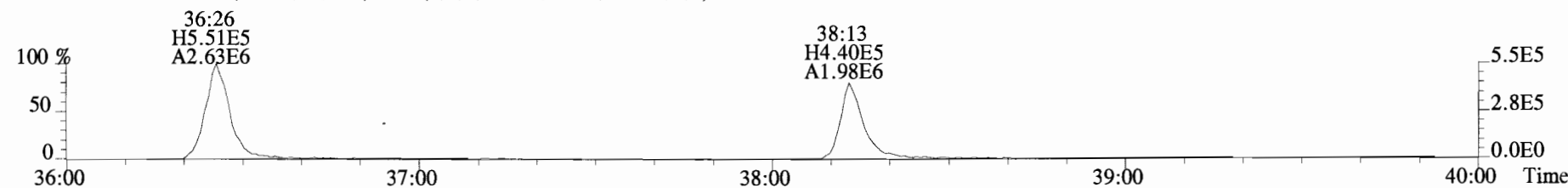
File:190627D2 #1-355 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



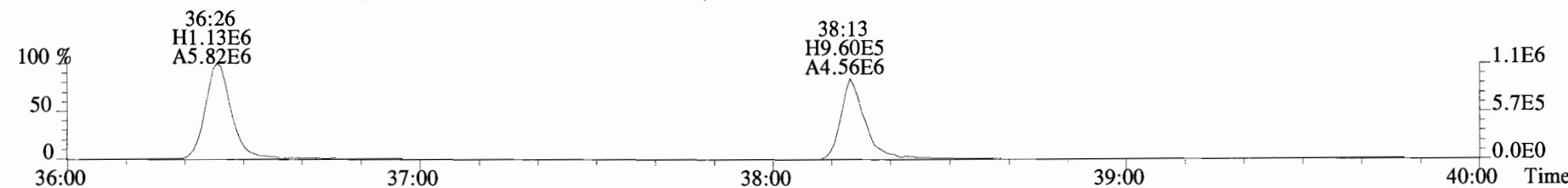
409.7788 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



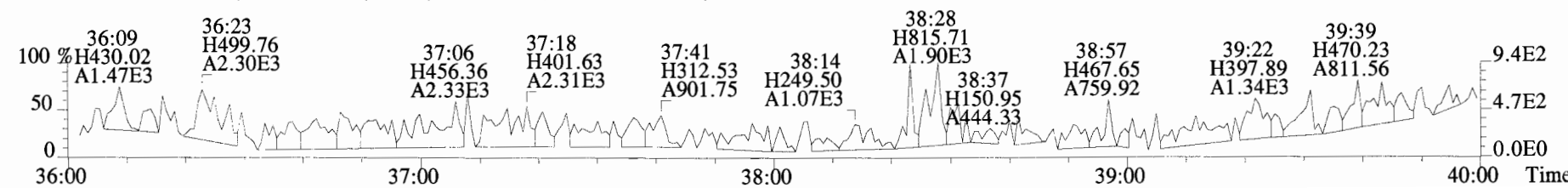
417.8253 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



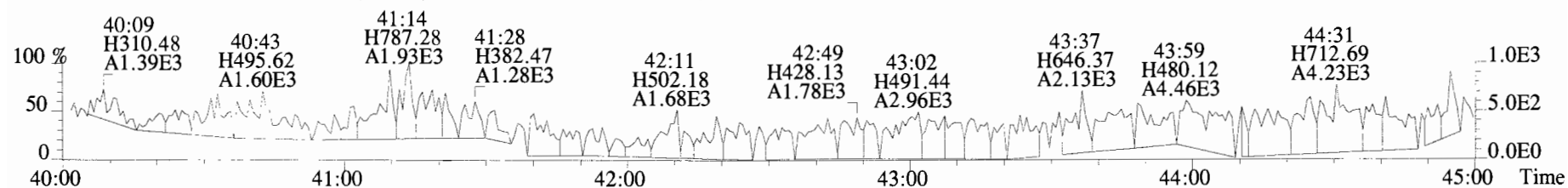
419.8220 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



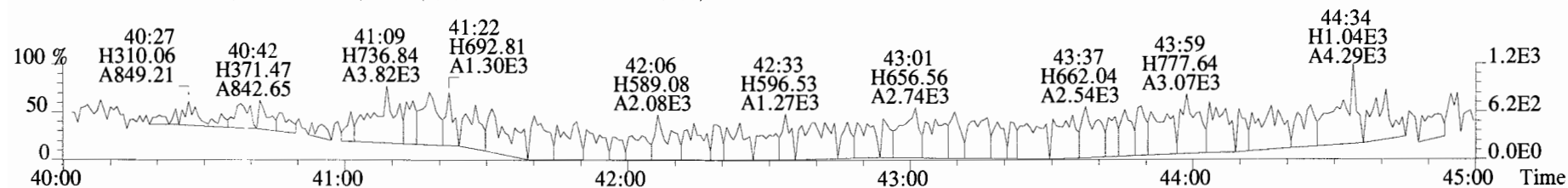
479.7165 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



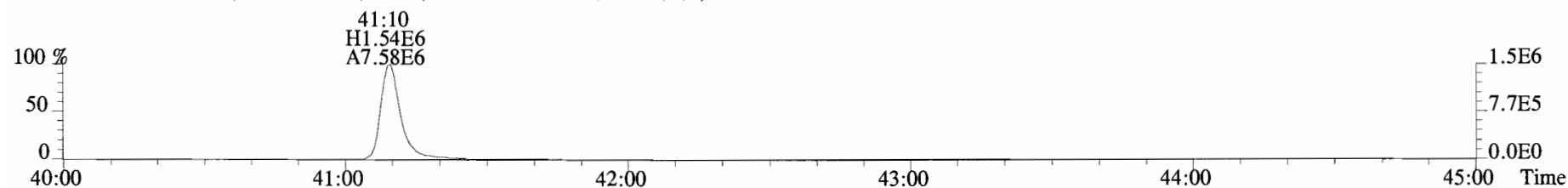
File:190627D2 #1-432 Acq:28-JUN-2019 10:41:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:1901246-15 T4-PDI2019-SC19-190521-07-09 7.31 Exp:OCDD_DB5
441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



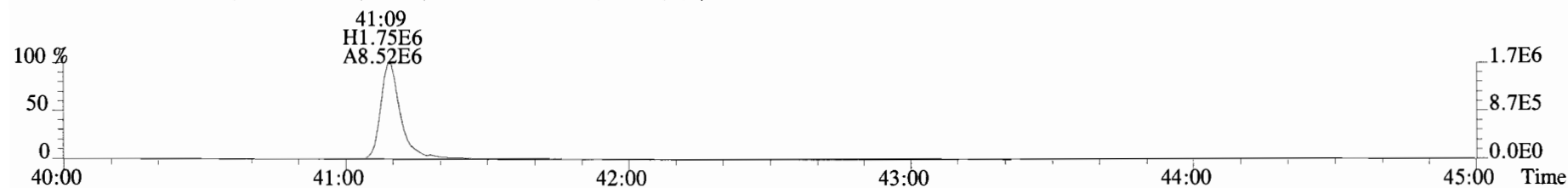
443.7398 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



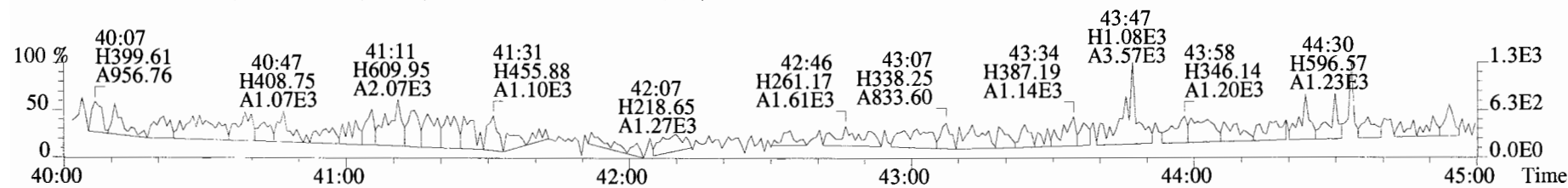
453.7831 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC19-1905217 Filename: 190712D1 S:13 Acq:12-JUL-19 23:07:31
 Lab ID: 1901246-16RE1 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.015

ConCal: ST190712D1-1
 EndCAL: NA

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Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF η	*		134	2.5	0.0908
1,2,3,7,8-PeCDD	*	* n	0.87	NotF η	*		224	2.5	0.154
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF η	*		288	2.5	0.338
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF η	*		288	2.5	0.361
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF η	*		288	2.5	0.328
1,2,3,4,6,7,8-HpCDD	1.02e+04	0.72 n	0.99	38:08	0.63155		*	2.5	*
OCDD	9.70e+04	0.97 y	0.99	41:30	7.1840		*	2.5	*
2,3,7,8-TCDF	*	* n	0.94	NotF η	*		208	2.5	0.106
1,2,3,7,8-PeCDF	*	* n	0.92	NotF η	*		194	2.5	0.141
2,3,4,7,8-PeCDF	*	* n	0.96	NotF η	*		194	2.5	0.131
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF η	*		164	2.5	0.0770
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF η	*		164	2.5	0.0806
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF η	*		164	2.5	0.0866
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF η	*		164	2.5	0.114
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF η	*		130	2.5	0.0880
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF η	*		130	2.5	0.0954
OCDF	*	* n	0.94	NotF η	*		142	2.5	0.178

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	0.570	0.570		*	*
Total Penta-Dioxins	*	0.281		*	*
Total Hexa-Dioxins	0.824	0.824		*	*
Total Hepta-Dioxins	1.74	2.37		*	*
Total Tetra-Furans	*	*		208	0.106
Total Penta-Furans	0.0000	0.0000		194	0.136
Total Hexa-Furans	*	*		164	0.0887
Total Hepta-Furans	*	*		130	0.0915

IS	Rec	Qual
13C-2,3,7,8-TCDD	1.00e+07	0.79 y
13C-1,2,3,7,8-PeCDD	7.93e+06	0.62 y
13C-1,2,3,4,7,8-HxCDD	6.60e+06	1.29 y
13C-1,2,3,6,7,8-HxCDD	7.58e+06	1.28 y
13C-1,2,3,7,8,9-HxCDD	7.61e+06	1.26 y
13C-1,2,3,4,6,7,8-HpCDD	6.54e+06	1.04 y
13C-OCDD	1.09e+07	0.92 y
13C-2,3,7,8-TCDF	1.42e+07	0.81 y
13C-1,2,3,7,8-PeCDF	1.17e+07	1.60 y
13C-2,3,4,7,8-PeCDF	1.14e+07	1.60 y
13C-1,2,3,4,7,8-HxCDF	9.23e+06	0.52 y
13C-1,2,3,6,7,8-HxCDF	1.03e+07	0.51 y
13C-2,3,4,6,7,8-HxCDF	9.59e+06	0.52 y
13C-1,2,3,7,8,9-HxCDF	8.71e+06	0.51 y
13C-1,2,3,4,6,7,8-HpCDF	7.88e+06	0.42 y
13C-1,2,3,4,7,8,9-HpCDF	6.04e+06	0.42 y
13C-OCDF	1.39e+07	0.89 y

C/Up	37Cl-2,3,7,8-TCDD	4.11e+06	1.22	26:43	133.31
RS/RT	13C-1,2,3,4-TCDD	1.01e+07	0.78 y	1.00	26:10
RS	13C-1,2,3,4-TCDF	1.54e+07	0.79 y	1.00	24:51
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.11e+07	0.51 y	1.00	33:51

Integrations
 by DB
 Analyst: DB
 Date: 7/25/19
 Reviewed
 by CT
 Analyst: CT
 Date: 08/08/19

Totals class: TCDD EMPC

Entry #: 19

Run: 18

File: 190712D1

S: 13 I: 1 F: 1

Acquired: 12-JUL-19 23:07:31

Processed: 15-JUL-19 11:00:48

Total Concentration: 0.56980

Unnamed Concentration: 0.570

RT	m1 Resp	m2 Resp RA	Resp Concentration	Name
24:57	5.763e+03	7.142e+03 0.81 y	1.290e+04	0.56980

Totals class: PeCDD EMPC

Entry #: 21

Run: 18

File: 190712D1

S: 13 I: 1 F: 2

Acquired: 12-JUL-19 23:07:31

Processed: 15-JUL-19 11:00:48

Total Concentration: 0.28125

Unnamed Concentration: 0.281

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
29:26	2.493e+03	2.992e+03	0.83 n	4.878e+03	0.28125

Totals class: HxCDD EMPC

Entry #: 23

Run: 18

File: 190712D1

S: 13 I: 1 F: 3

Acquired: 12-JUL-19 23:07:31

Processed: 15-JUL-19 11:00:48

Total Concentration: 0.82388

Unnamed Concentration: 0.824

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:45	7.551e+03	7.095e+03	1.06 y	1.465e+04	0.82388

Totals class: HpCDD EMPC

Entry #: 25

Run: 18

File: 190712D1

S: 13 I: 1 F: 4

Acquired: 12-JUL-19 23:07:31

Processed: 15-JUL-19 11:00:48

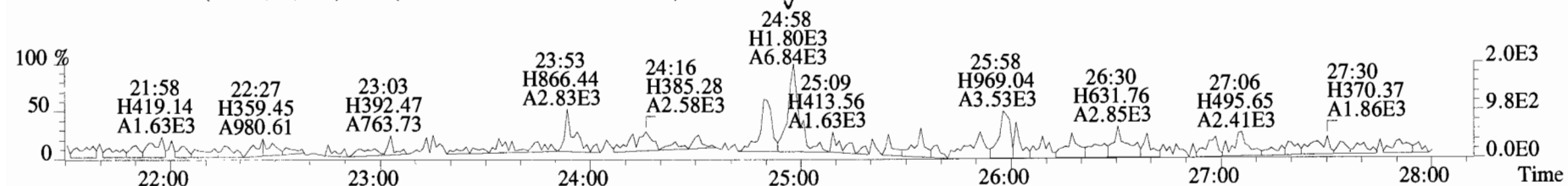
Total Concentration: 2.3731

Unnamed Concentration: 1.742

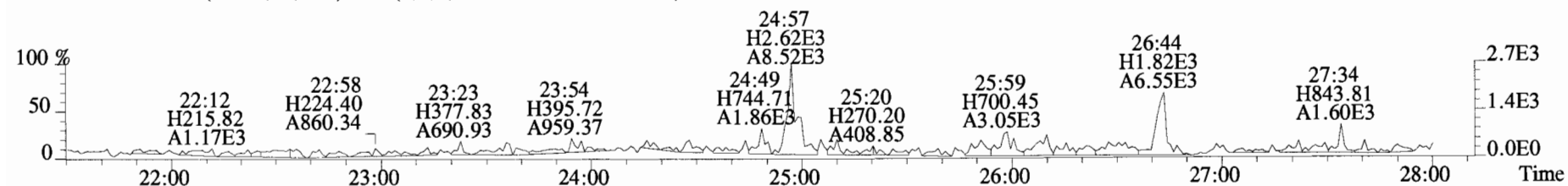
RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
37:19	1.387e+04	1.435e+04	0.97 y	2.822e+04	1.7416
38:08	5.218e+03	7.237e+03	0.72 n	1.023e+04	0.63155

1,2,3,4,6,7,8-HpCDD

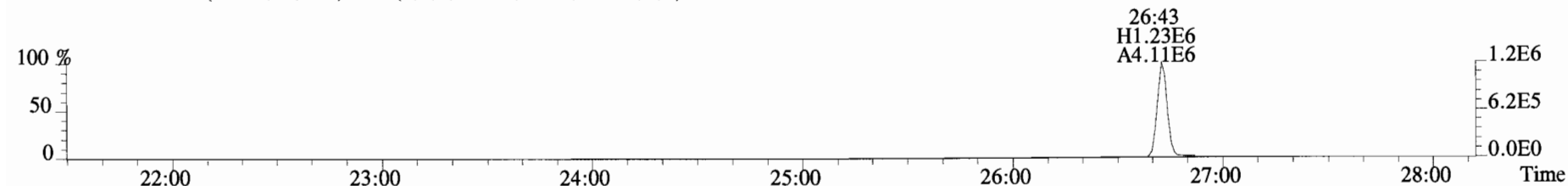
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Sample#13 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



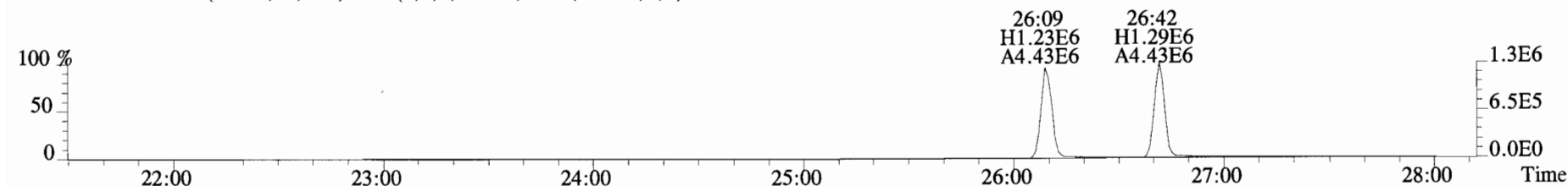
321.8936 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



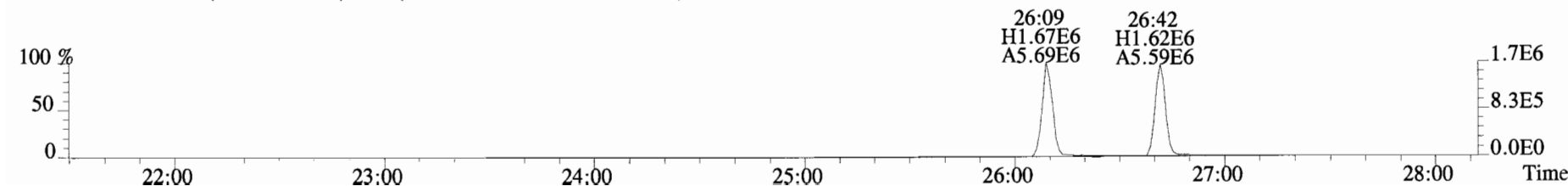
327.8847 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



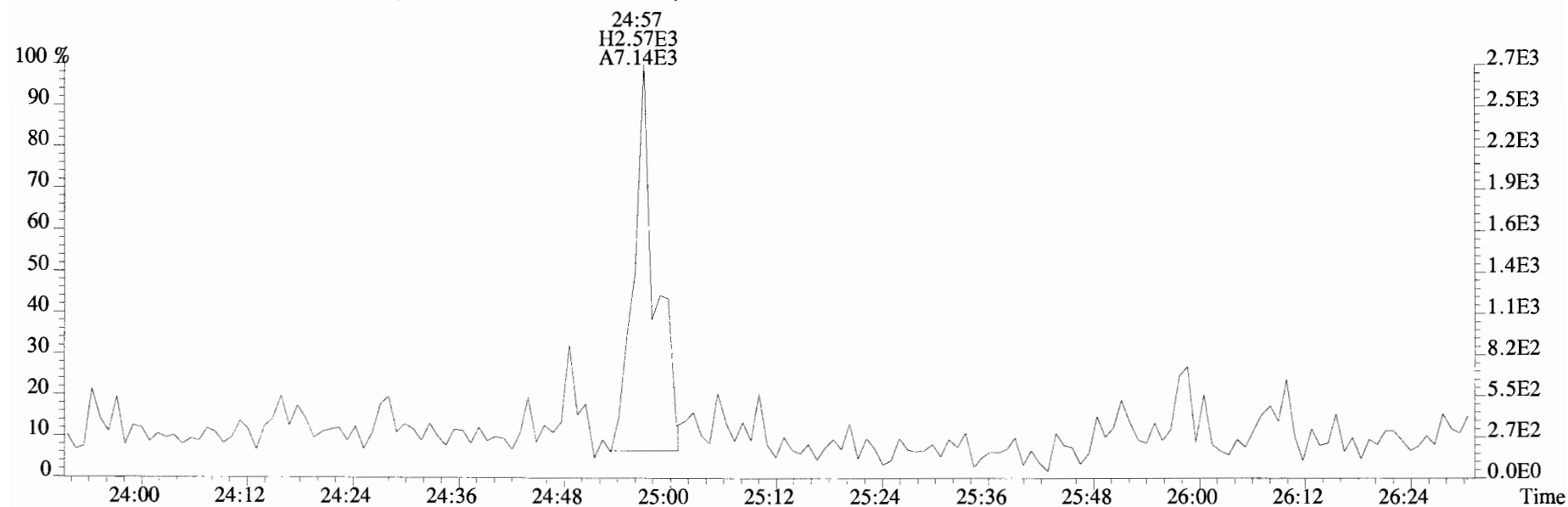
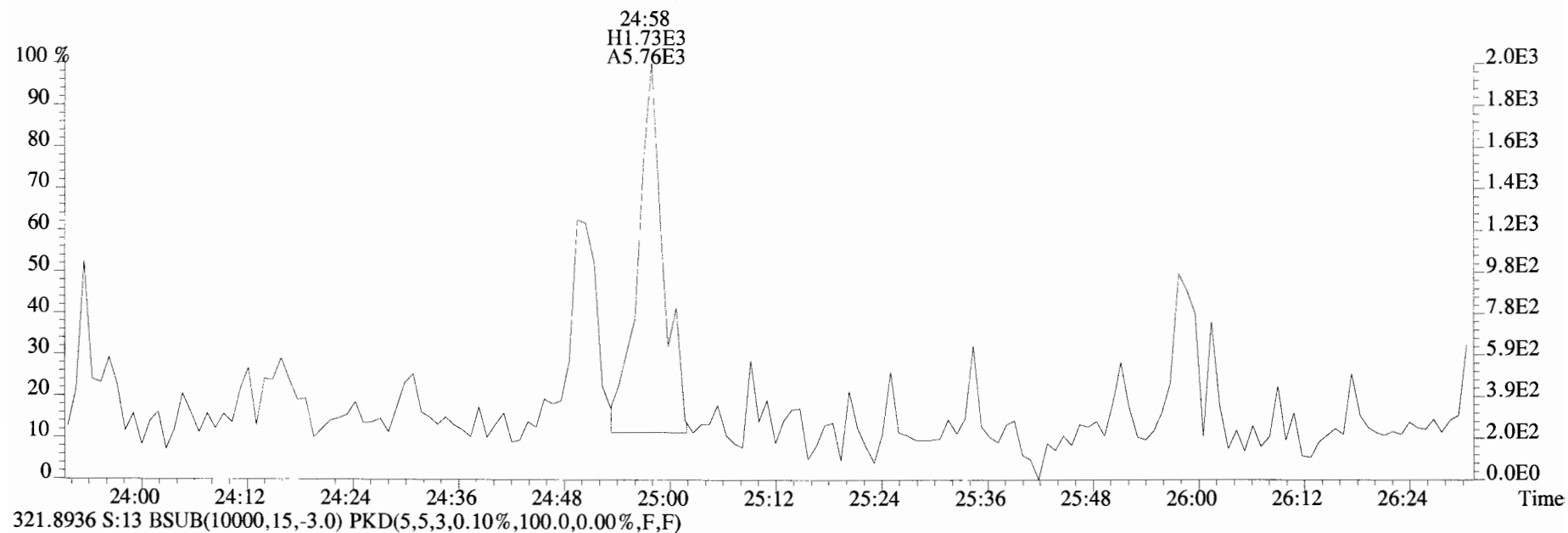
331.9368 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



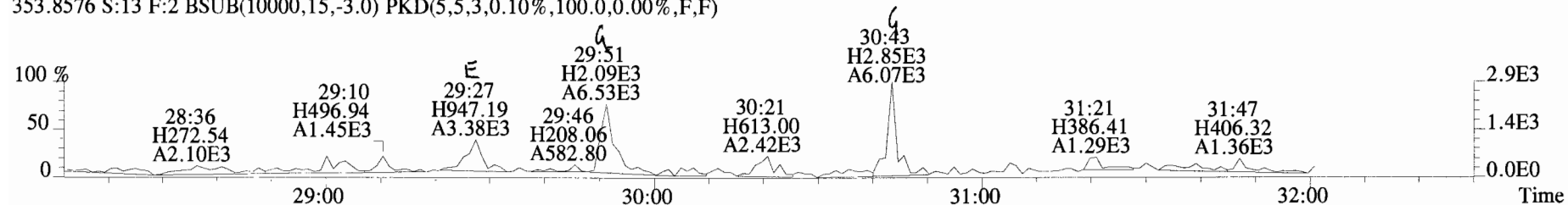
333.9339 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



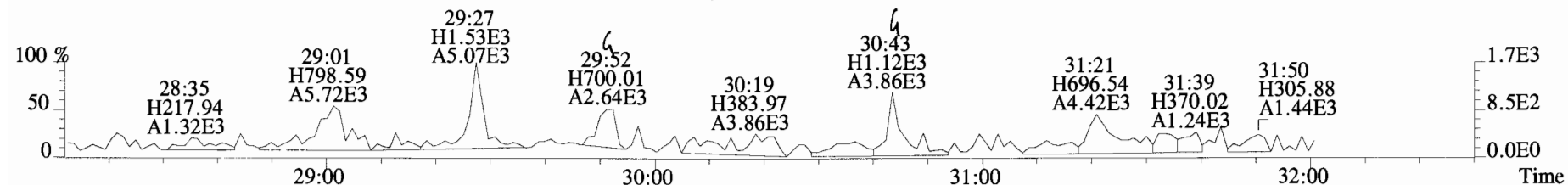
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Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



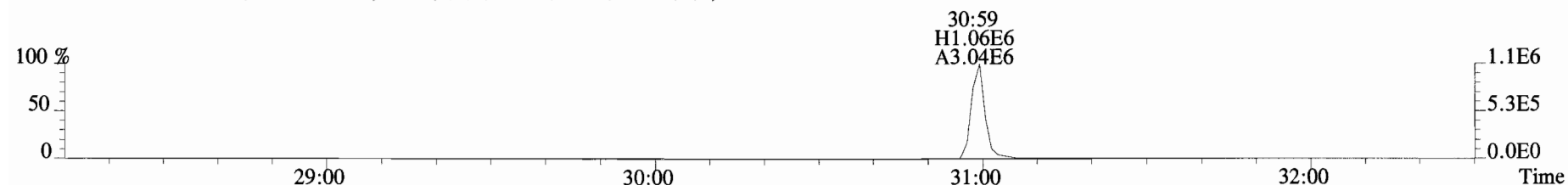
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Sample#13 File Text: Vista_Analytical_Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



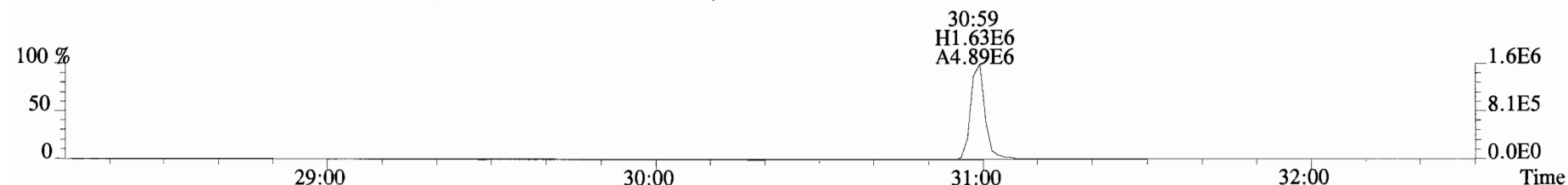
355.8546 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



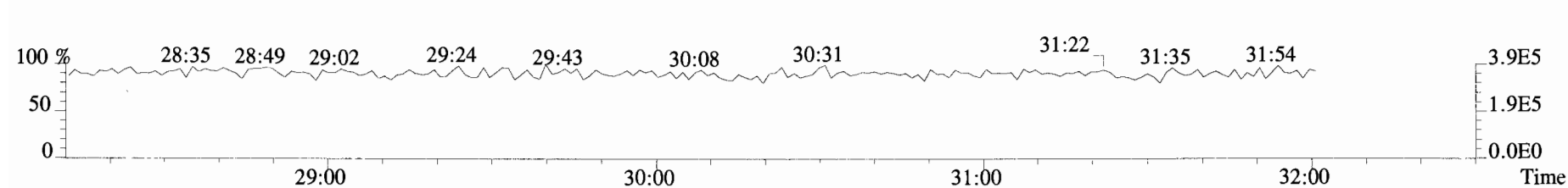
365.8978 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



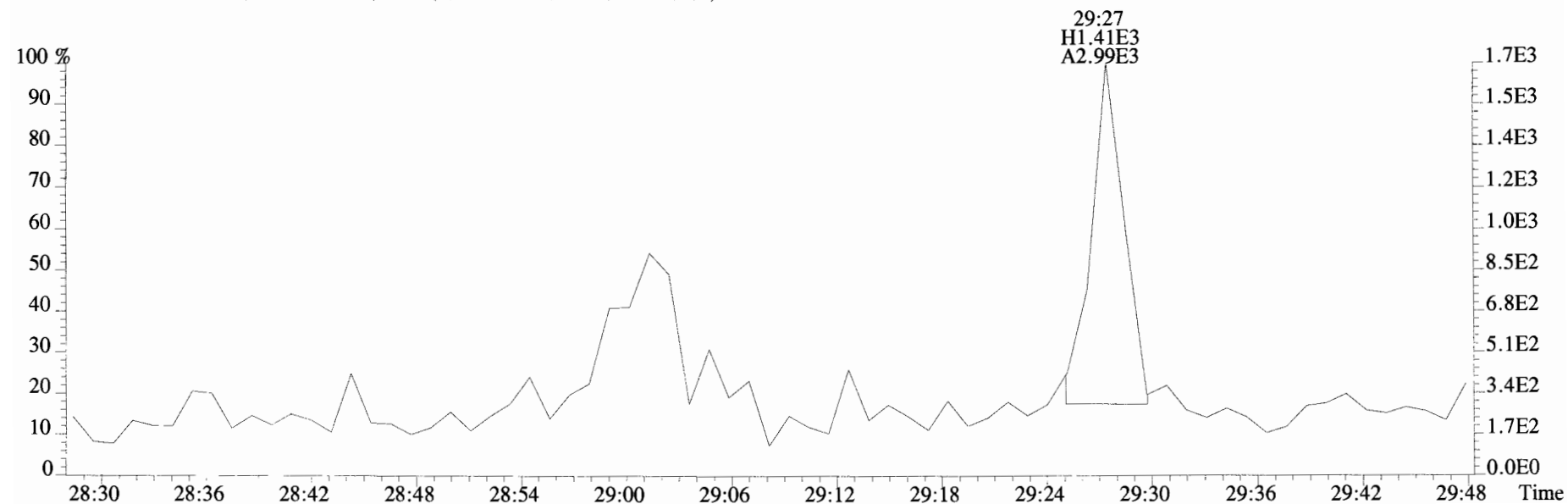
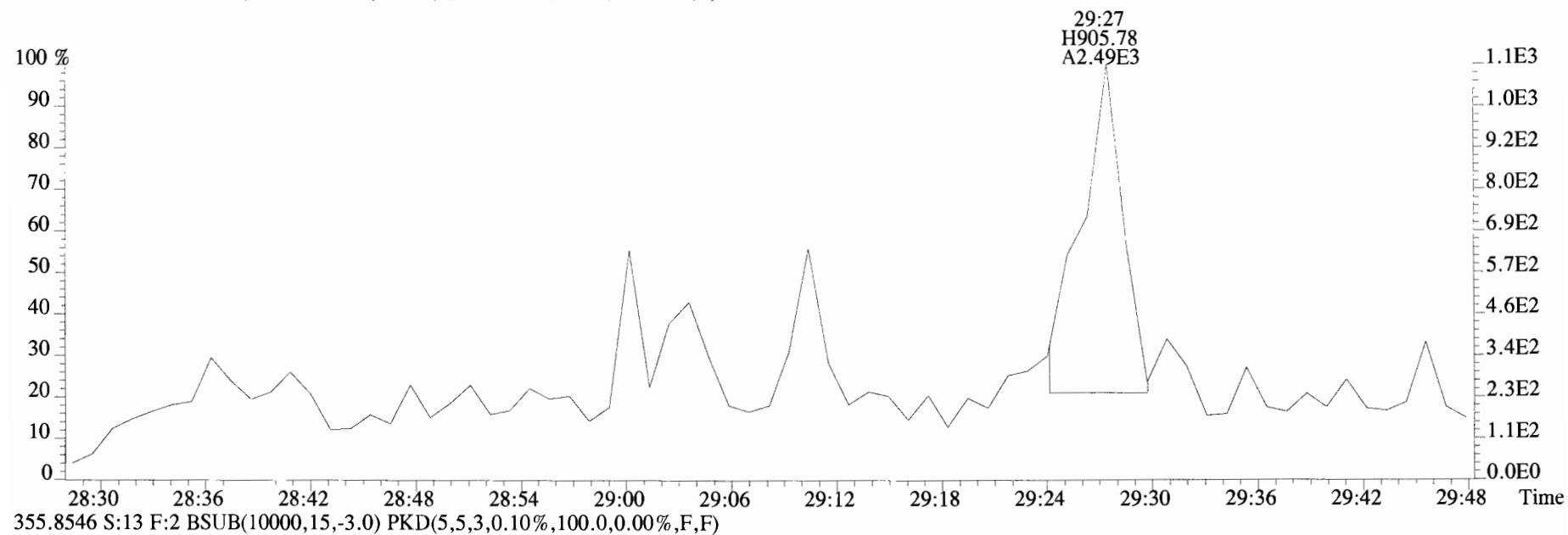
367.8949 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



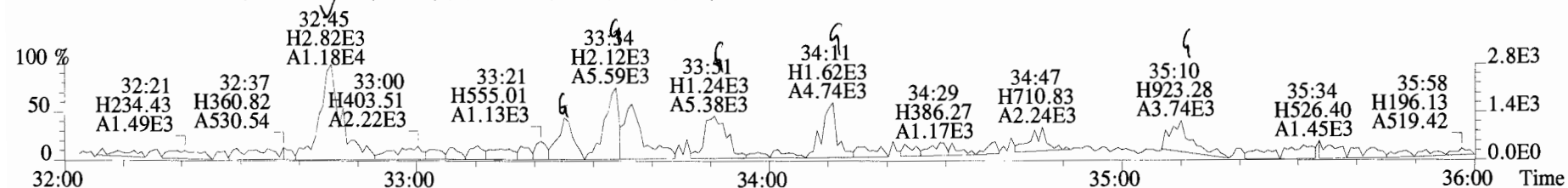
366.9792 S:13 F:2



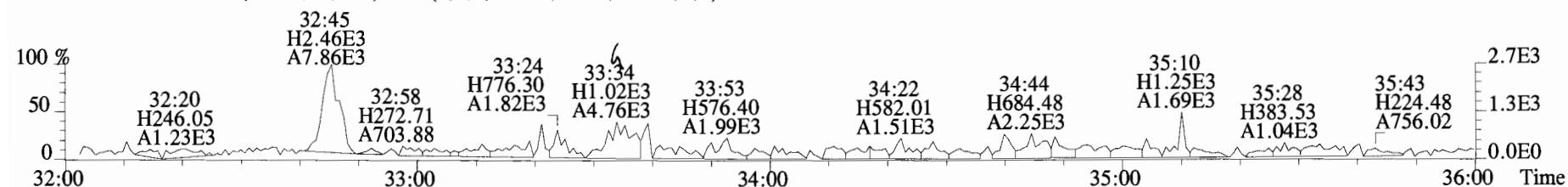
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Sample#13 File Text: Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



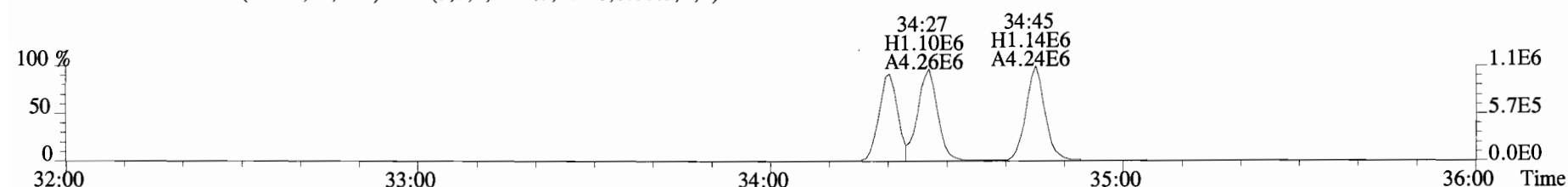
File:190712D1 #1-355 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



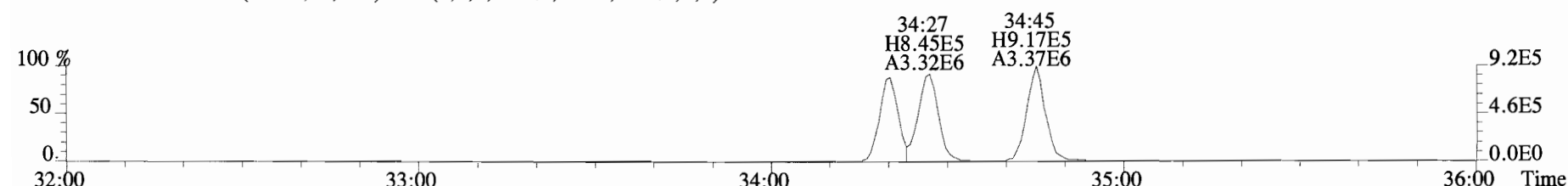
391.8127 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



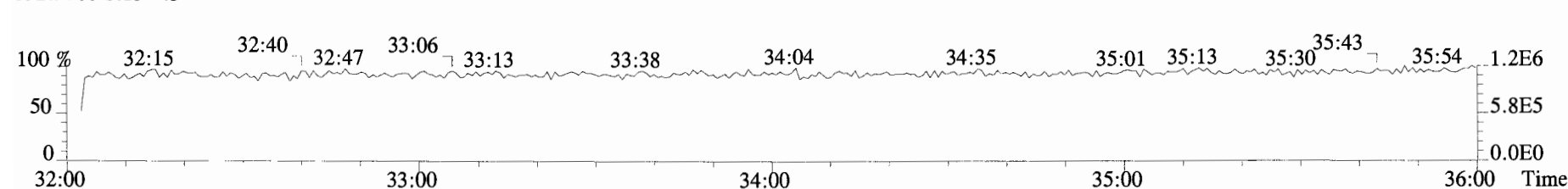
401.8559 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



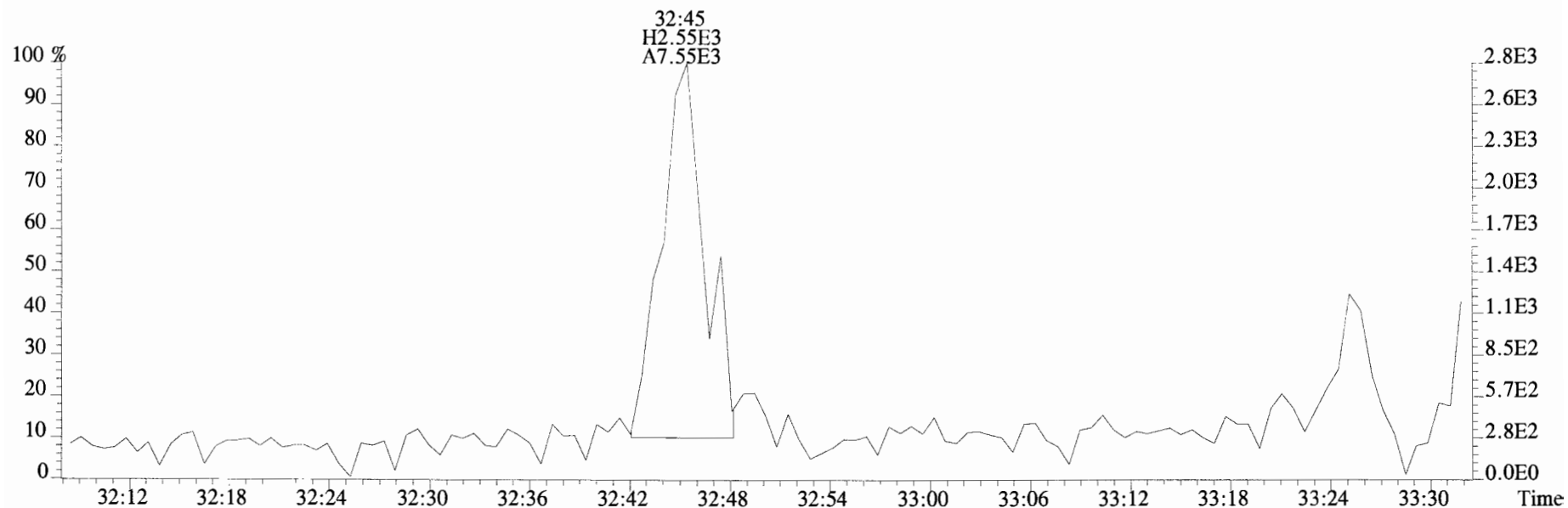
403.8530 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



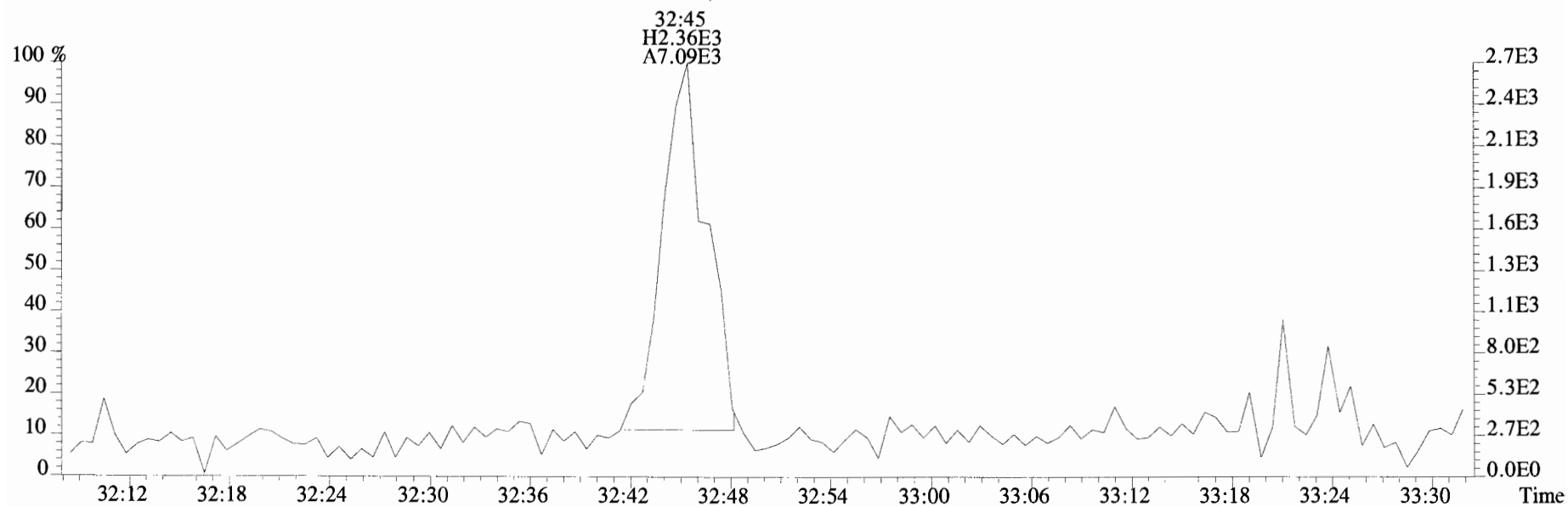
392.9760 S:13 F:3



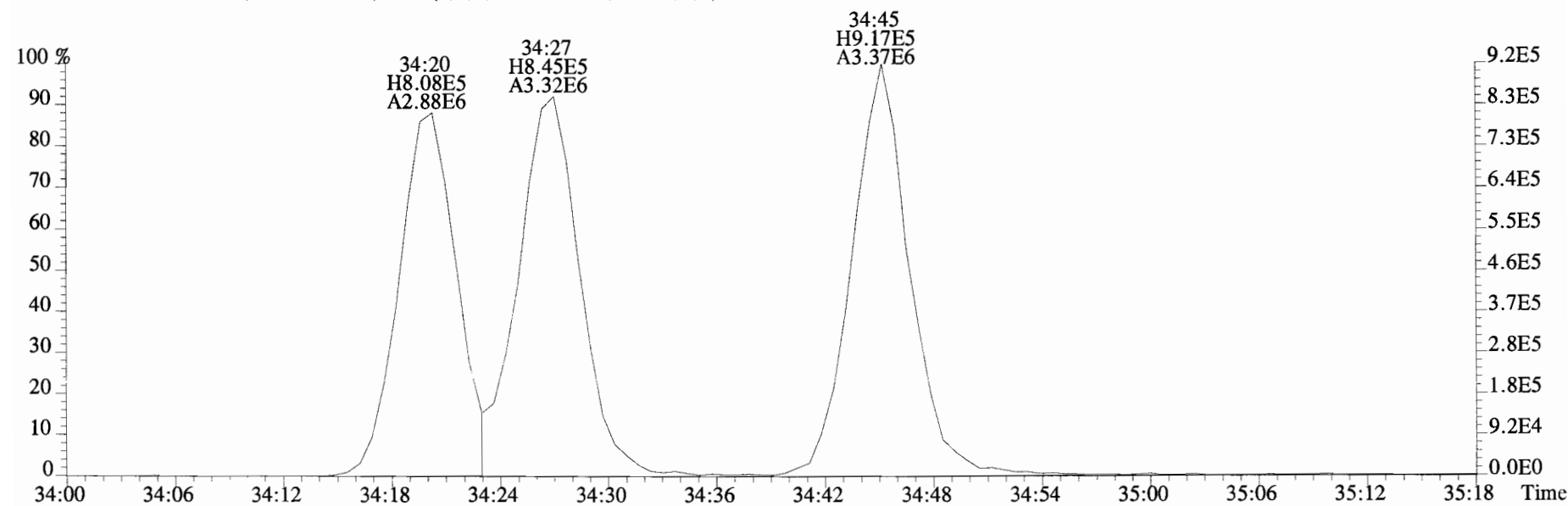
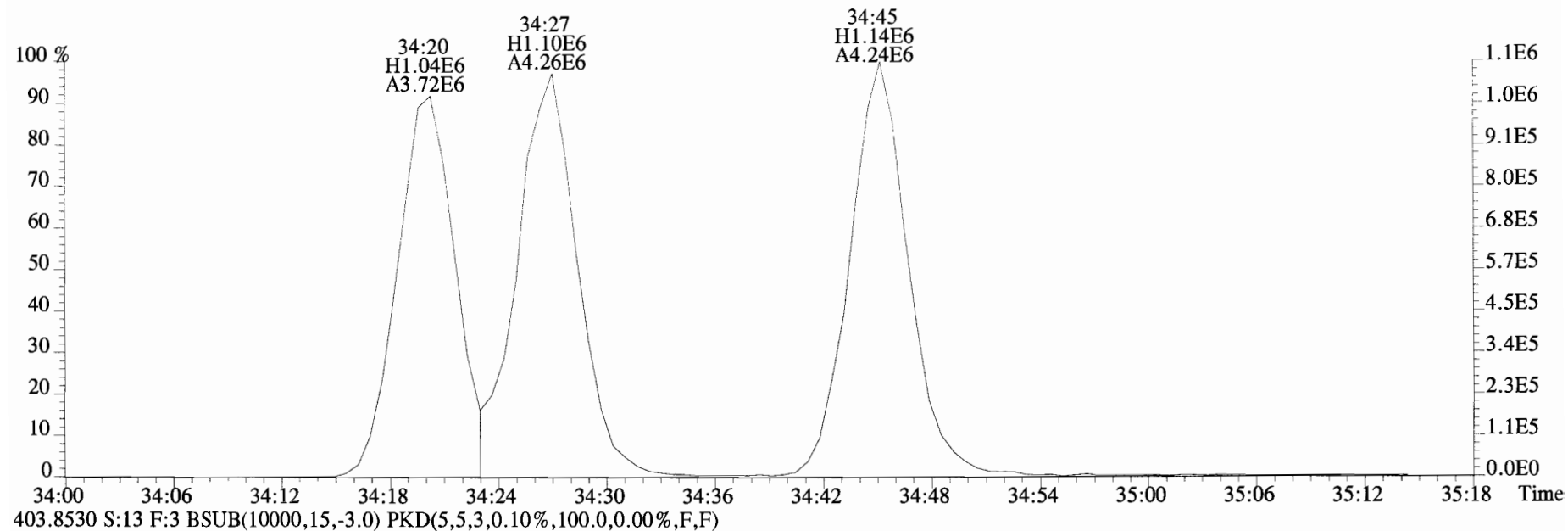
File:190712D1 #1-355 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



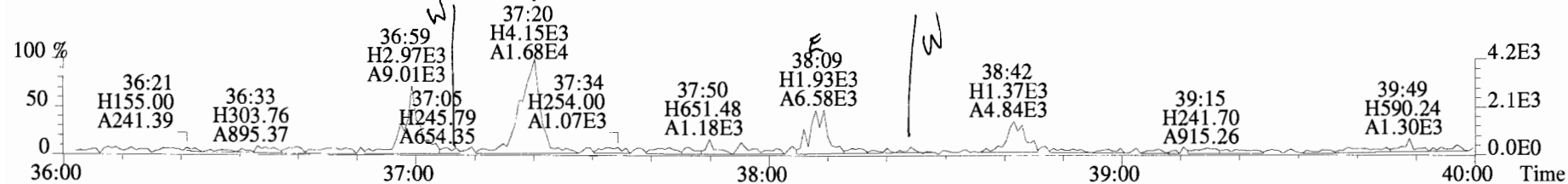
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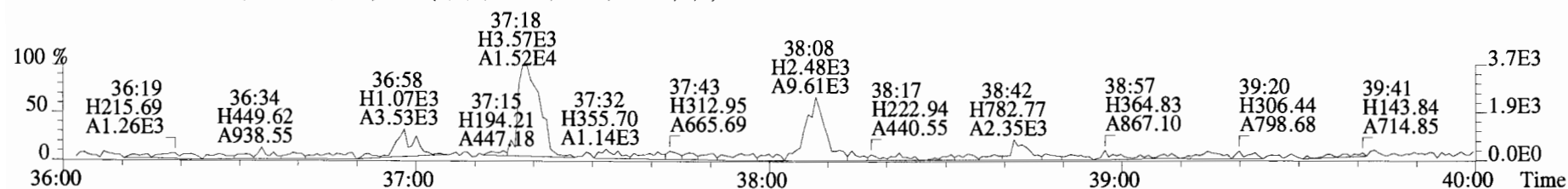
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Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
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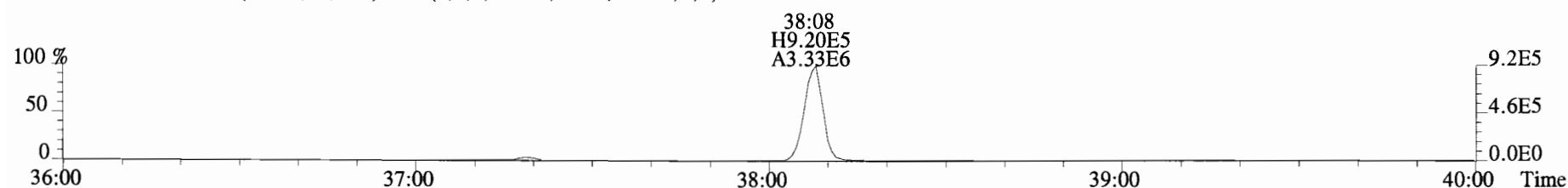
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Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
423.7767 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



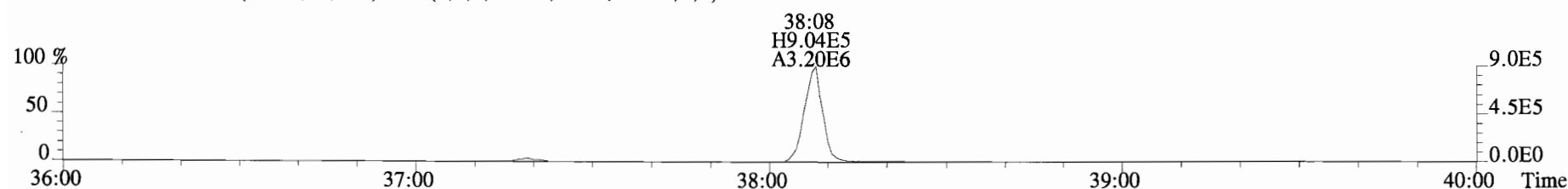
425.7737 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



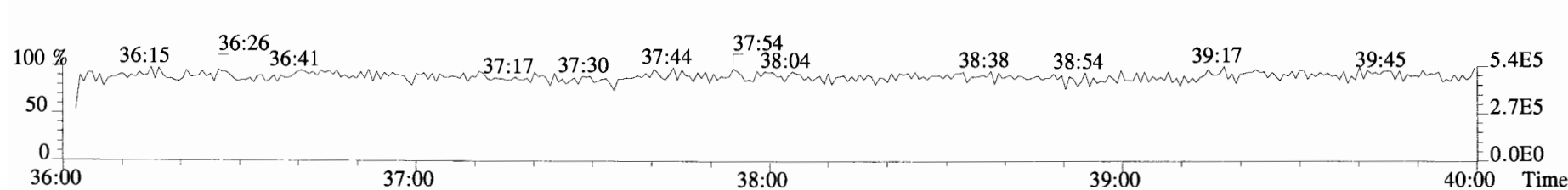
435.8169 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



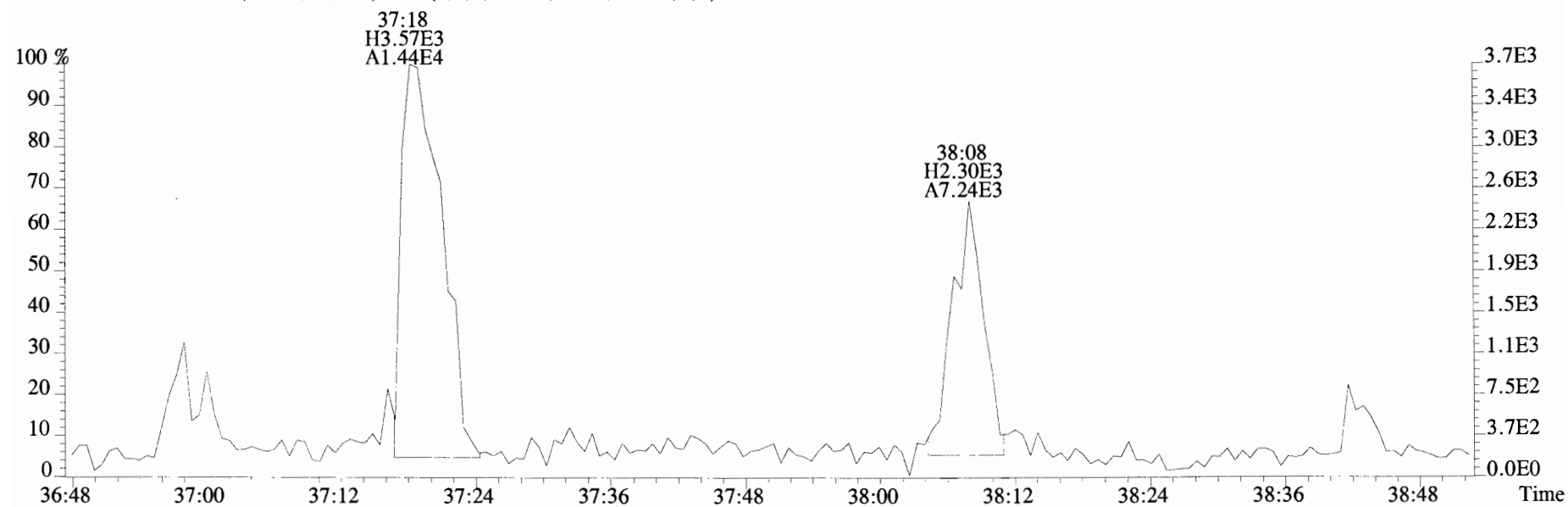
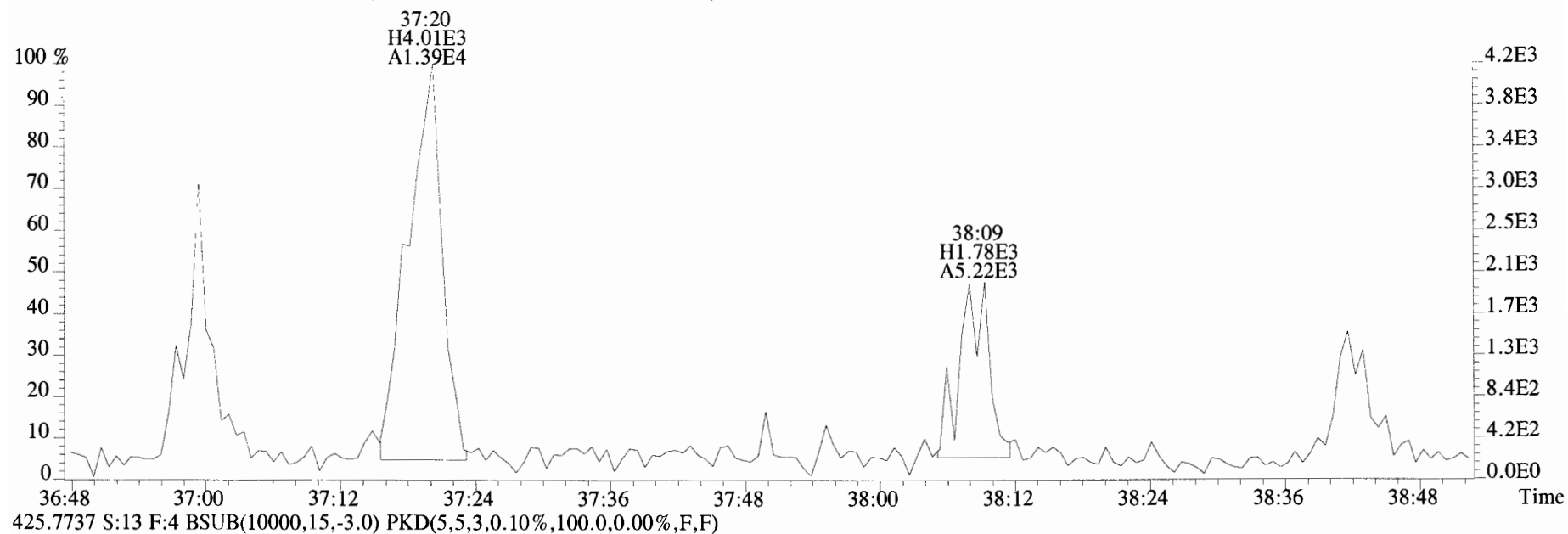
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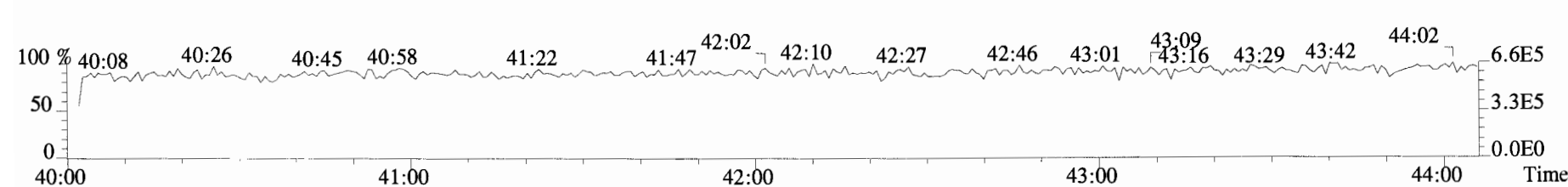
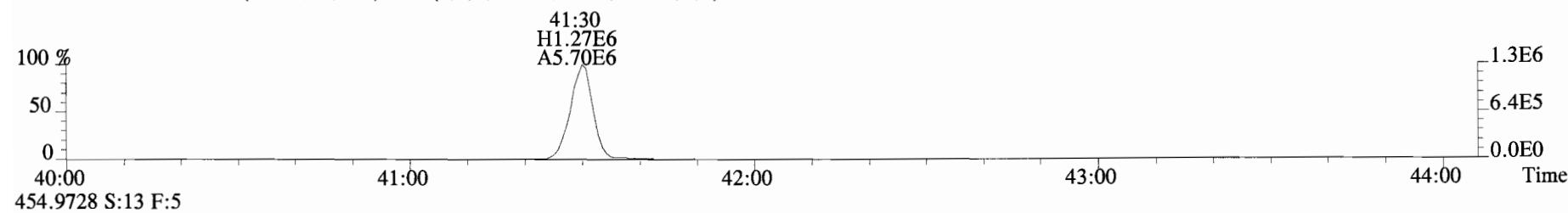
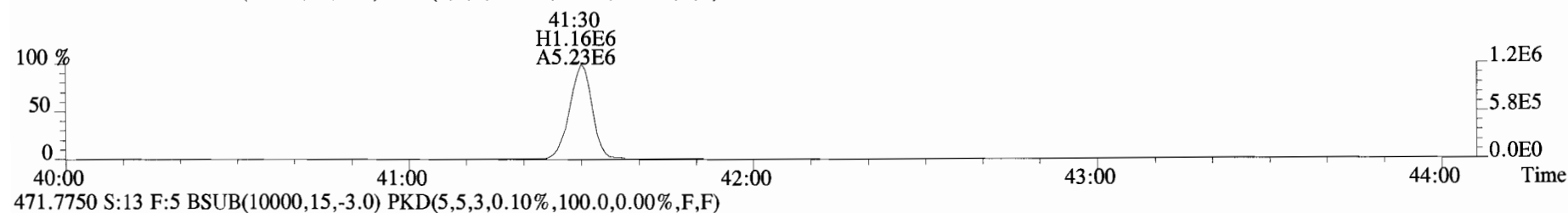
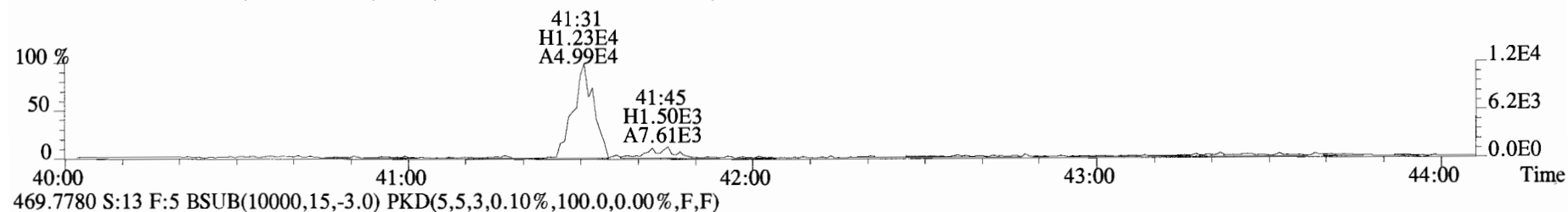
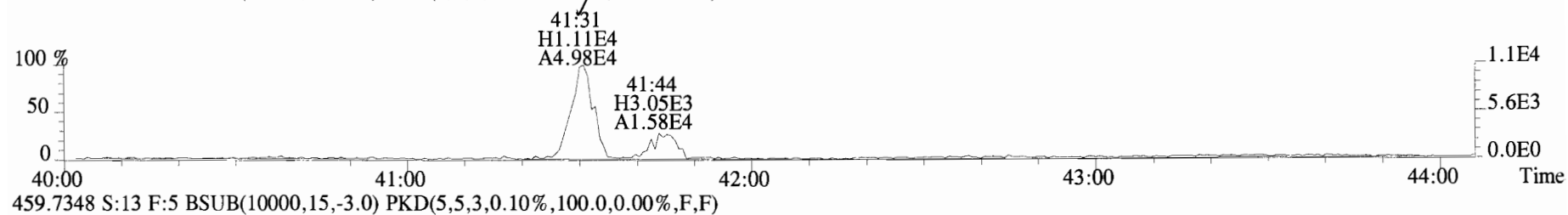
454.9728 S:13 F:4



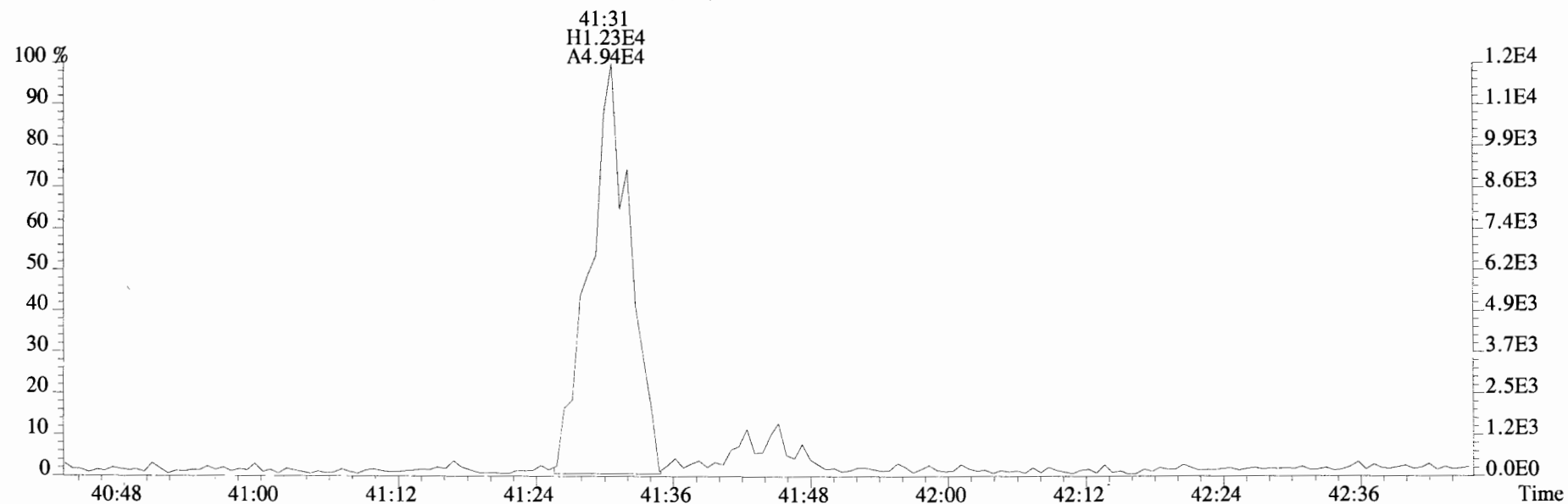
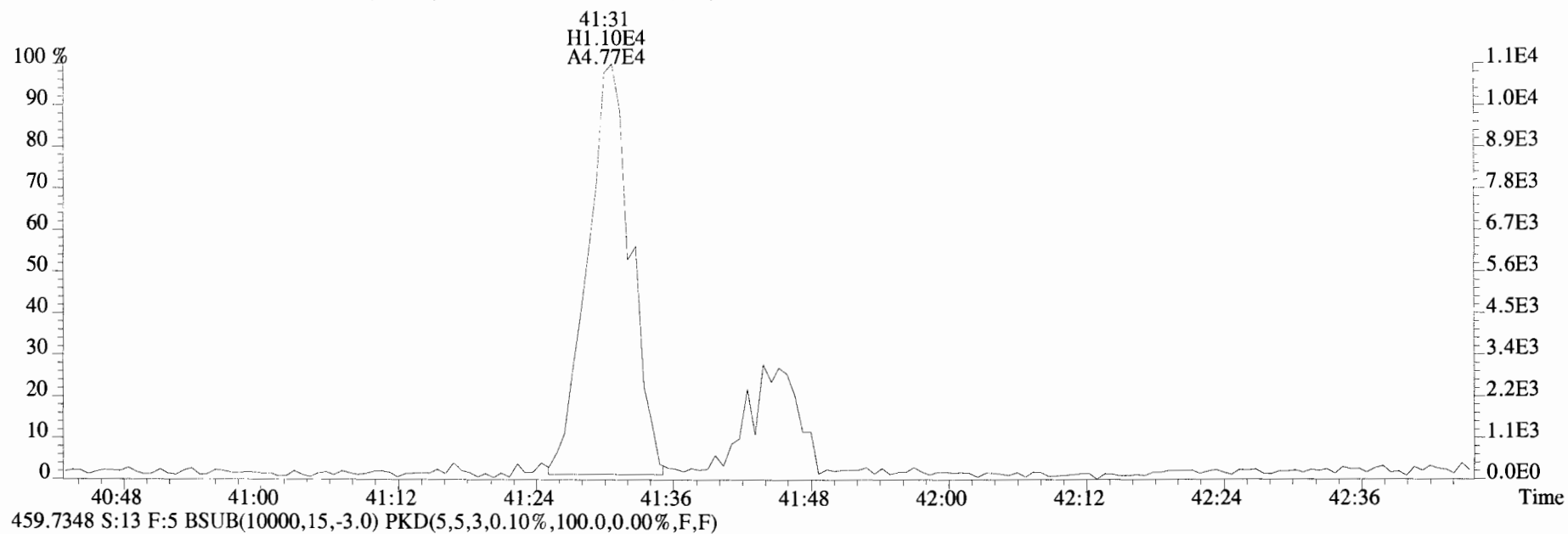
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Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
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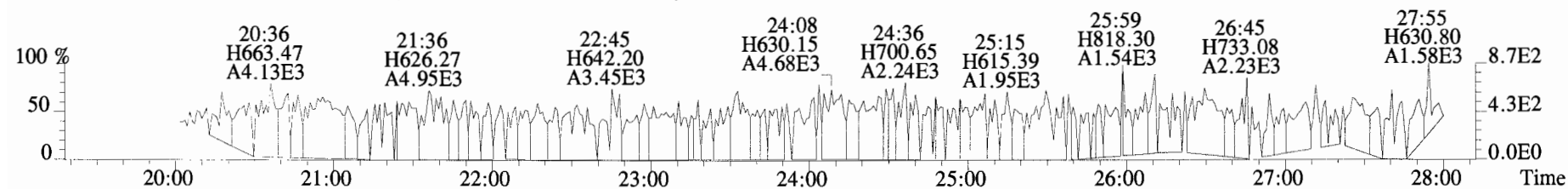
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Sample#13 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
457.7377 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



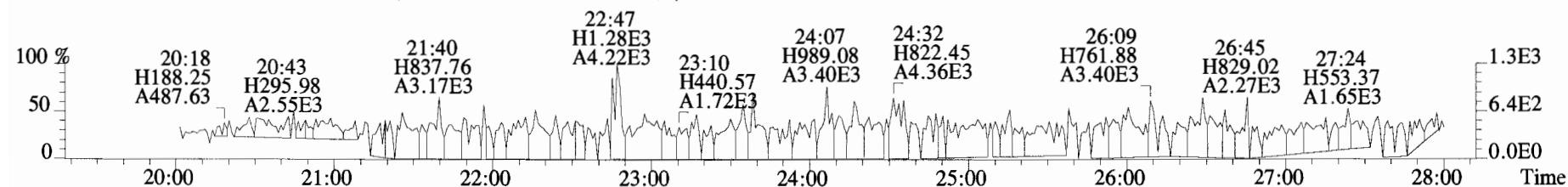
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Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
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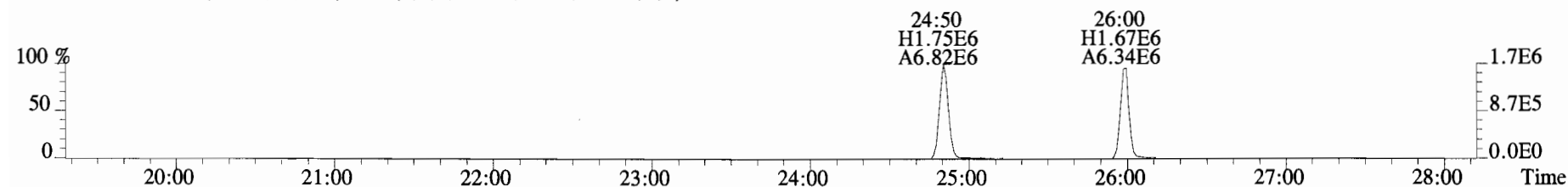
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303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



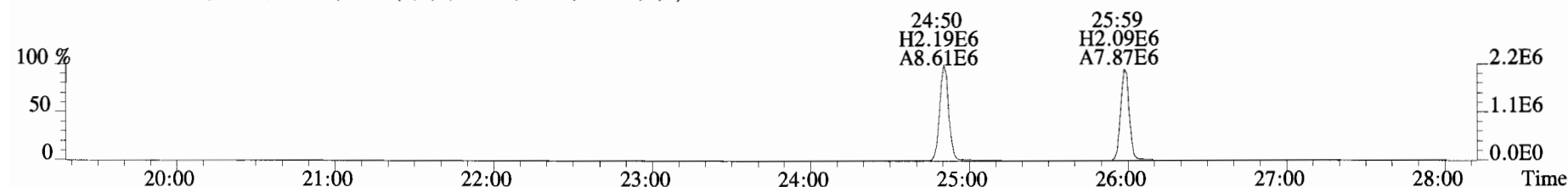
305.8987 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



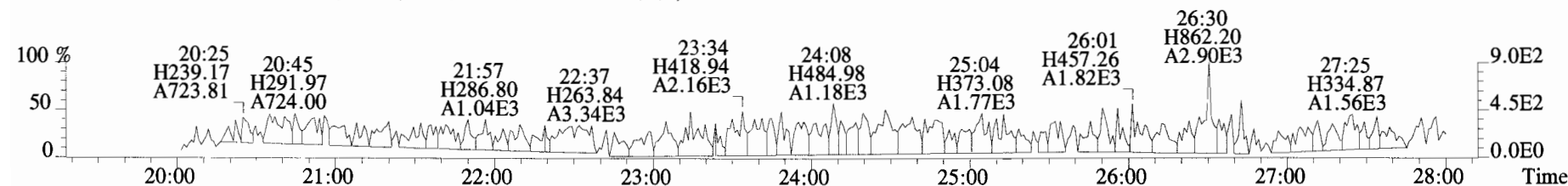
315.9419 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



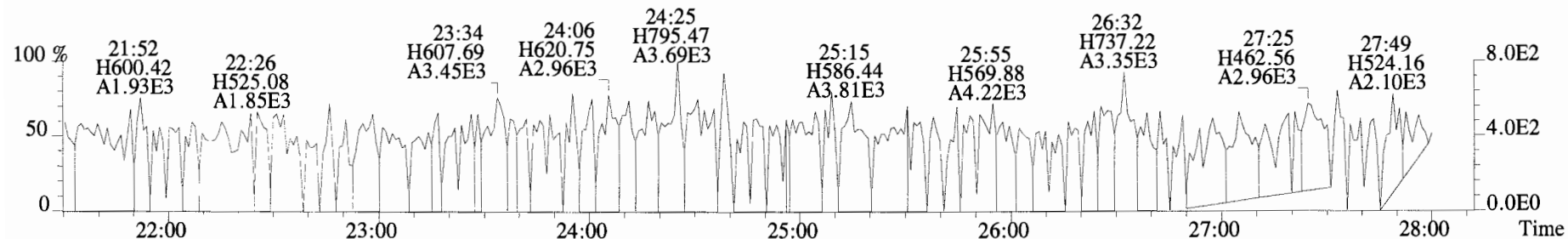
317.9389 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



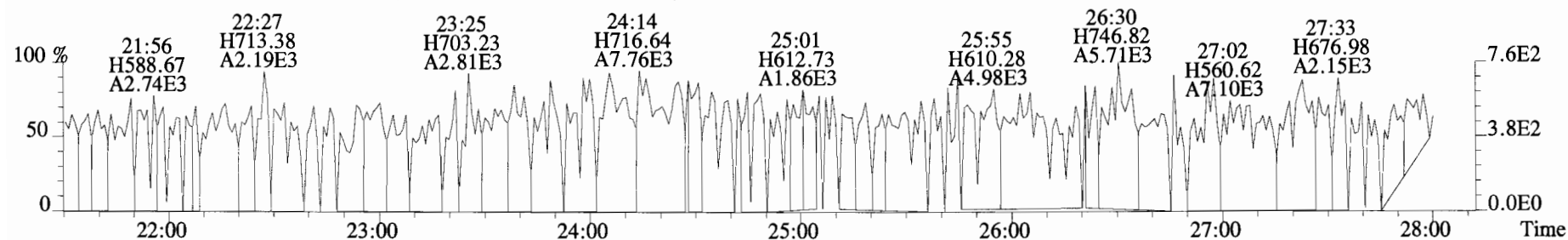
375.8364 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



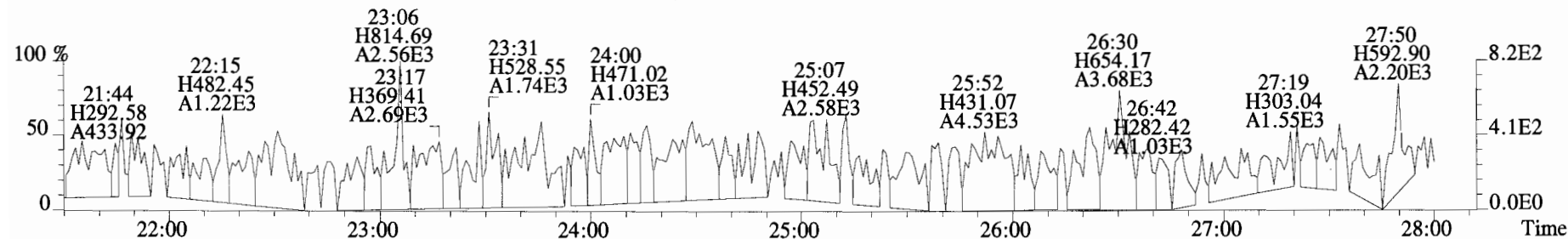
File:190712D1 #1-513 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
339.8597 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



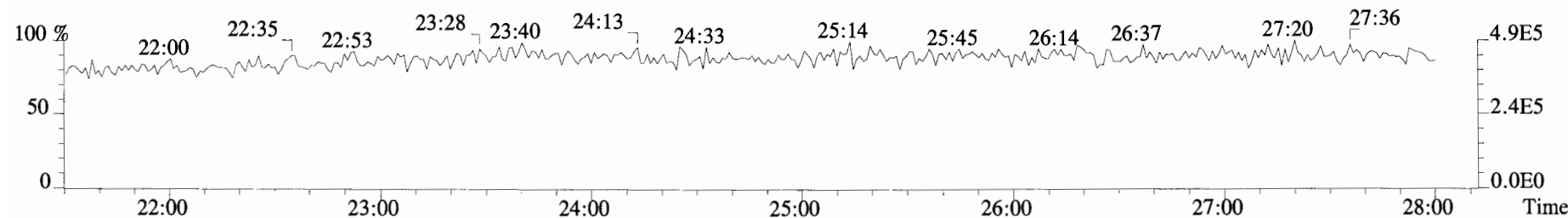
341.8568 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



409.7974 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



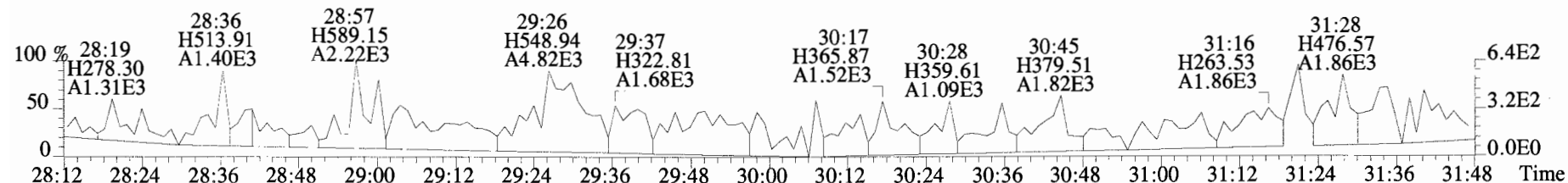
316.9824 S:13



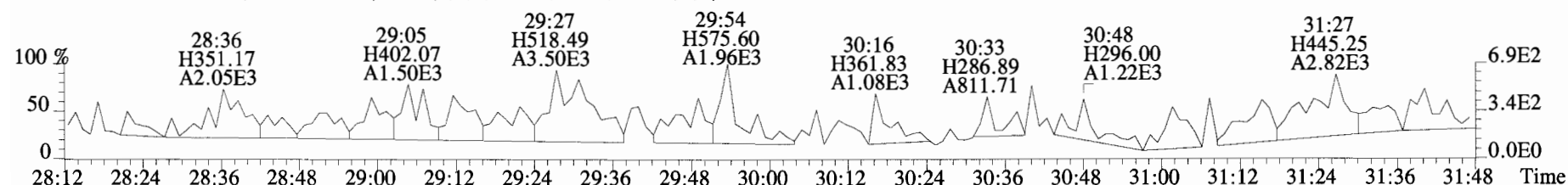
File:190712D1 #1-211 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE

Sample#13 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5

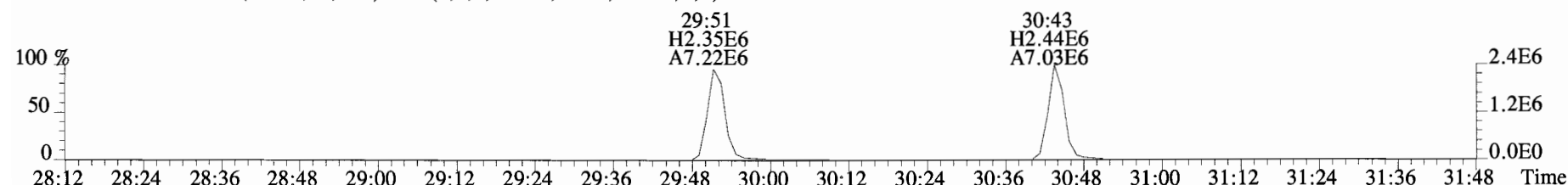
339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



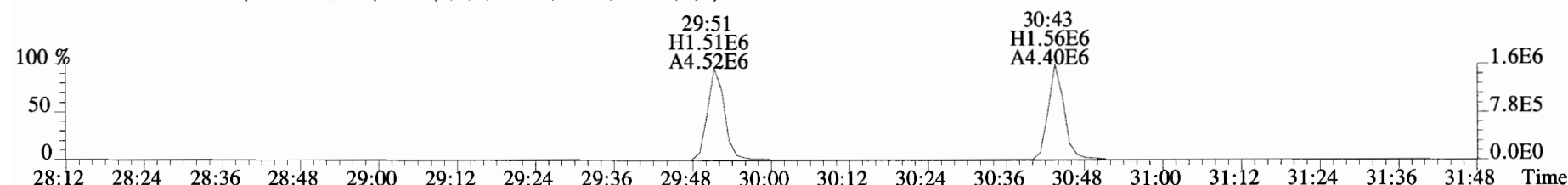
341.8568 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



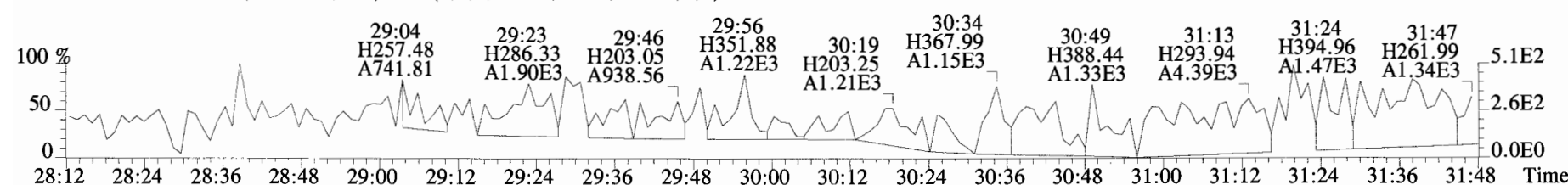
351.9000 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



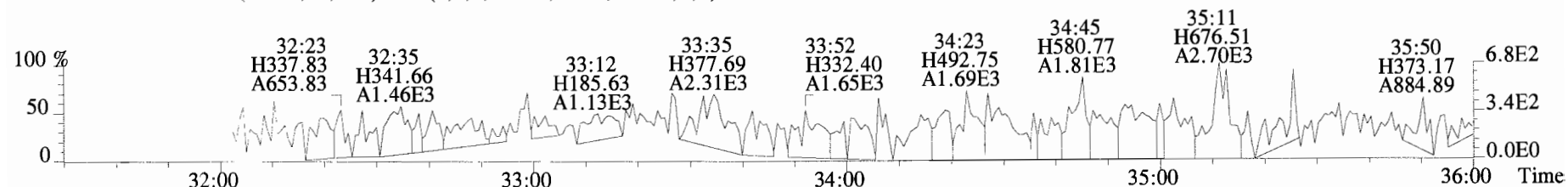
353.8970 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



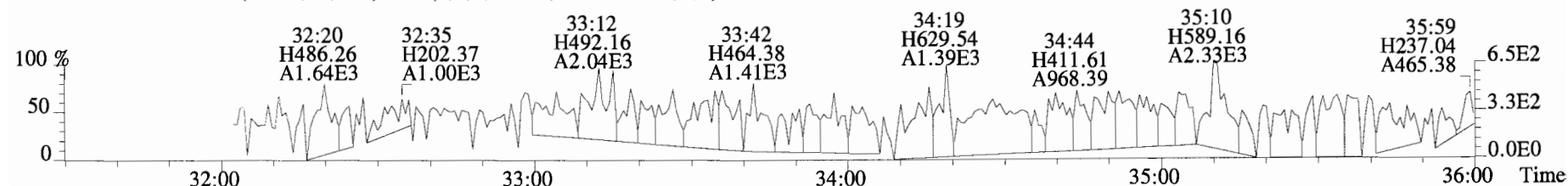
409.7974 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



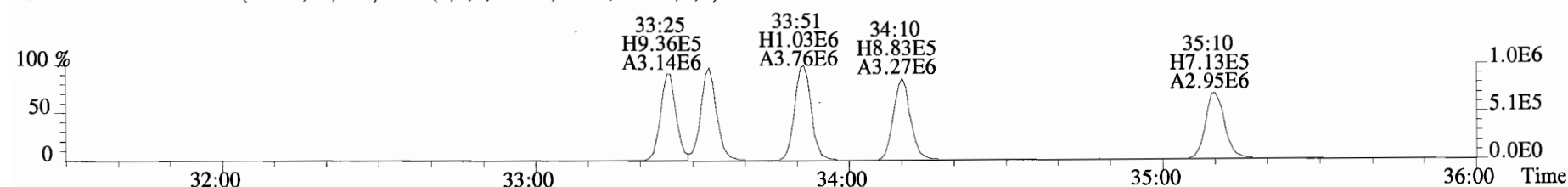
File:190712D1 #1-355 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
 373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



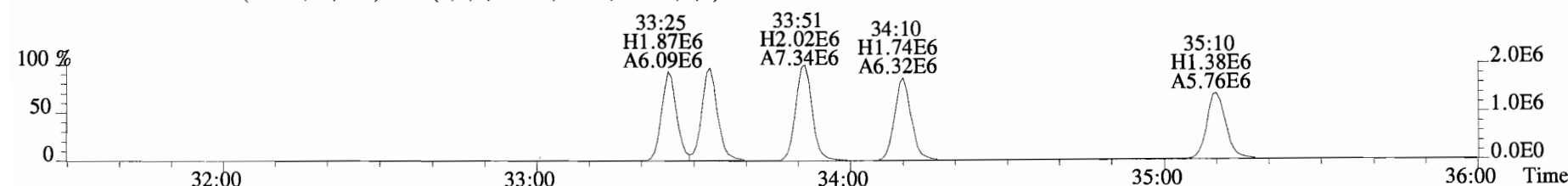
375.8178 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



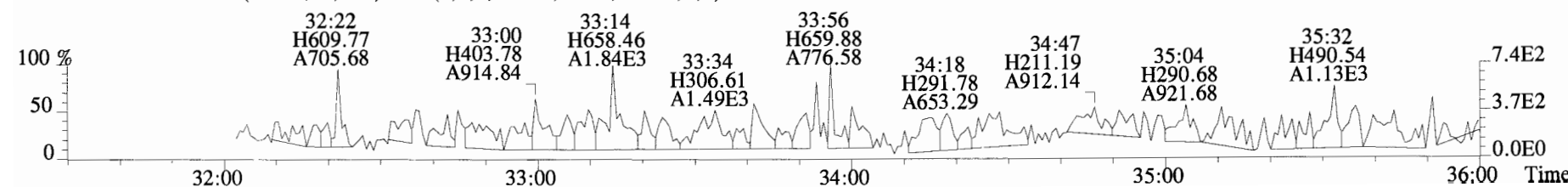
383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



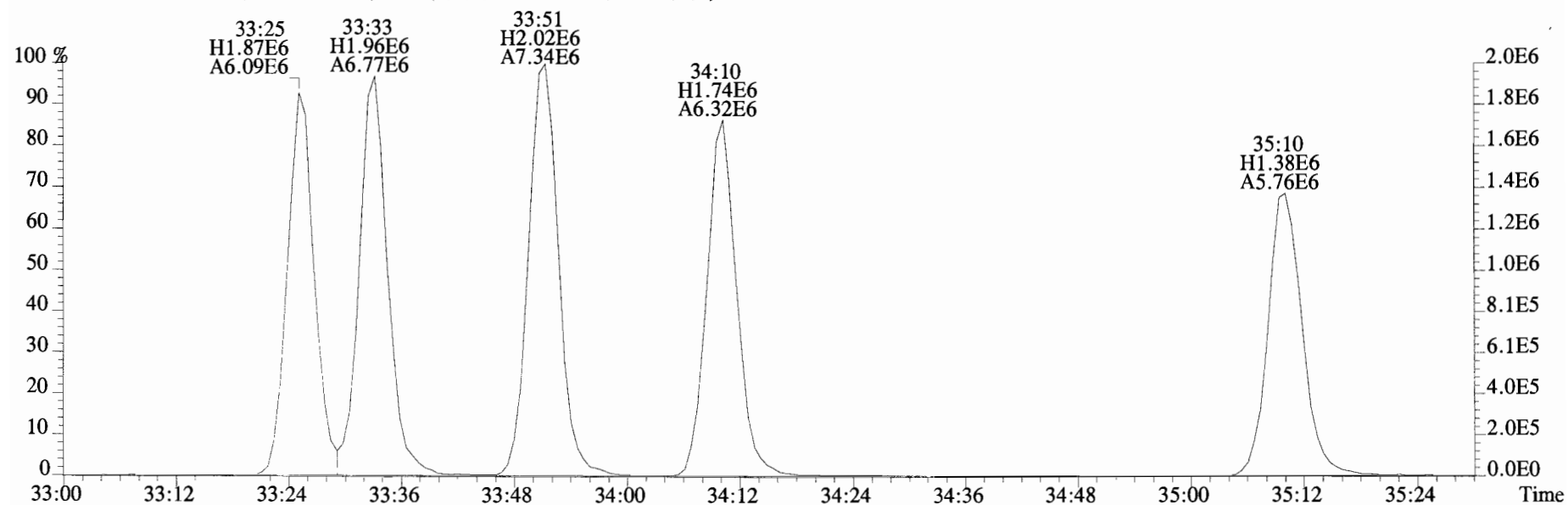
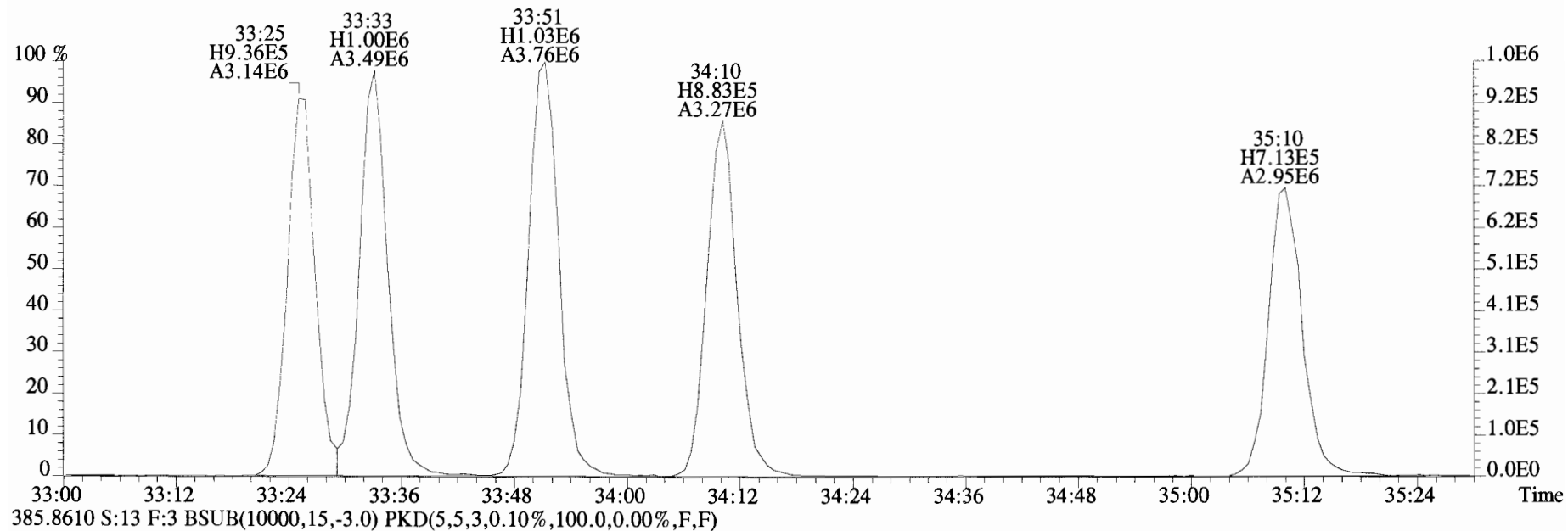
385.8610 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



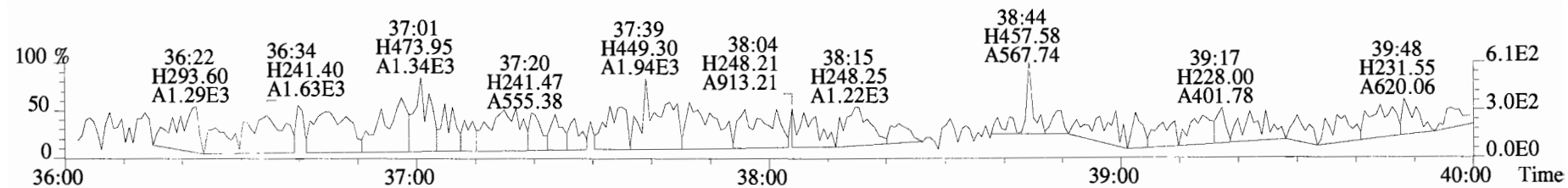
445.7555 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



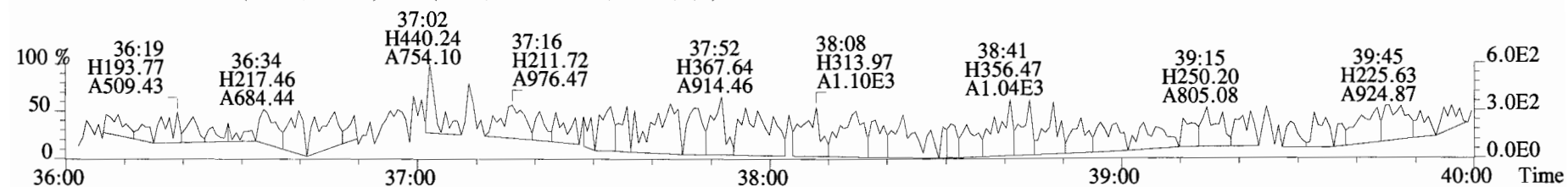
File:190712D1 #1-355 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
 383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



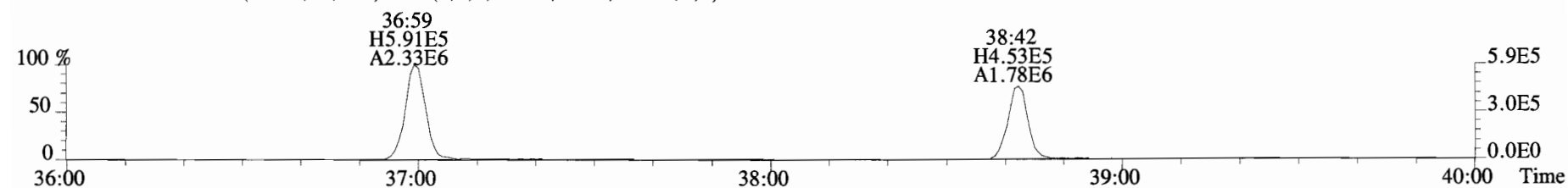
File:190712D1 #1-355 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5
407.7818 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



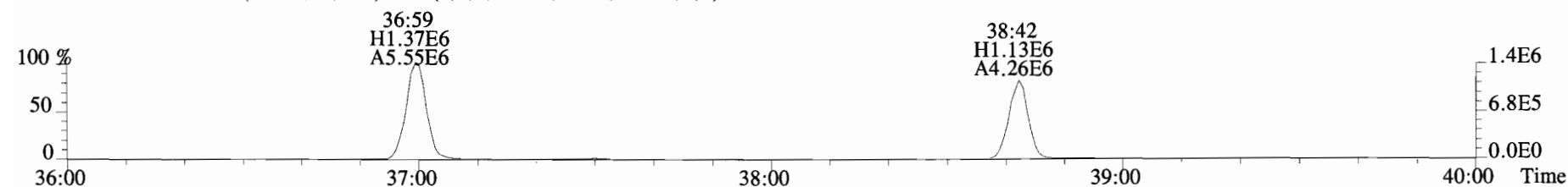
409.7788 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



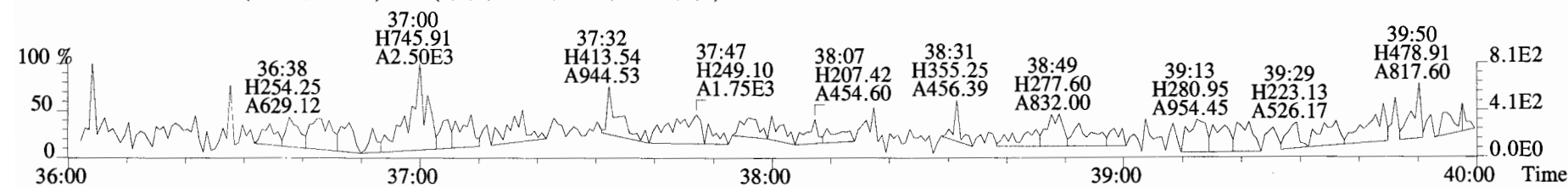
417.8253 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



419.8220 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



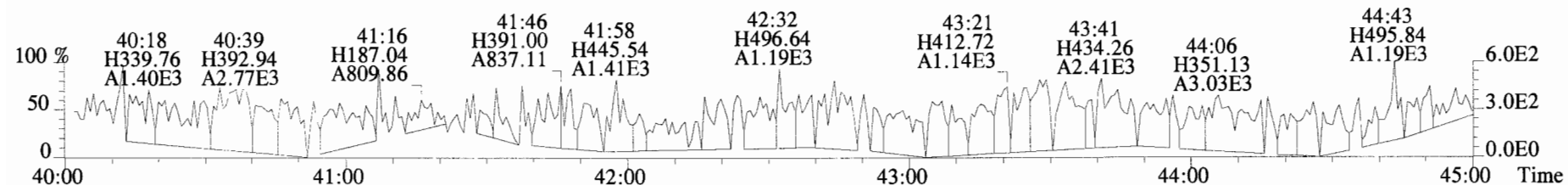
479.7165 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



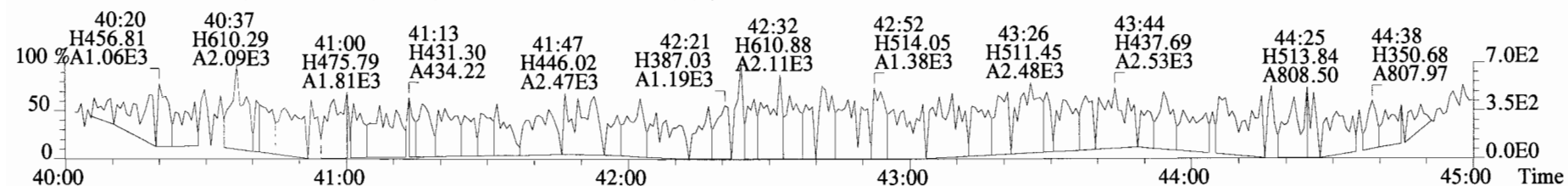
File:190712D1 #1-432 Acq:12-JUL-2019 23:07:31 GC EI+ Voltage SIR Autospec-UltimaE

Sample#13 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-16RE1 T4-PDI2019-SC19-190521-09-11 8 Exp:OCDD_DB5

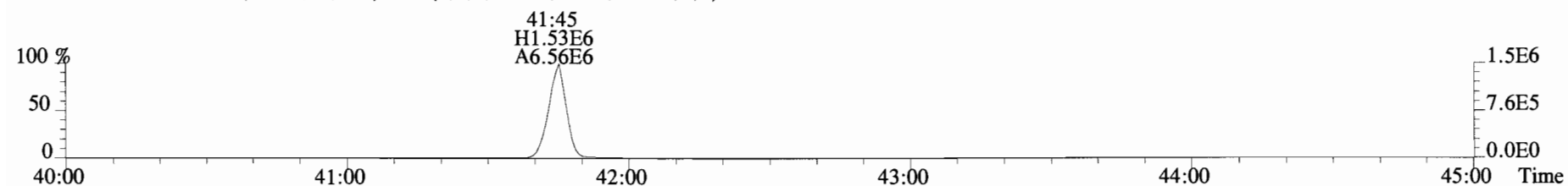
441.7428 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



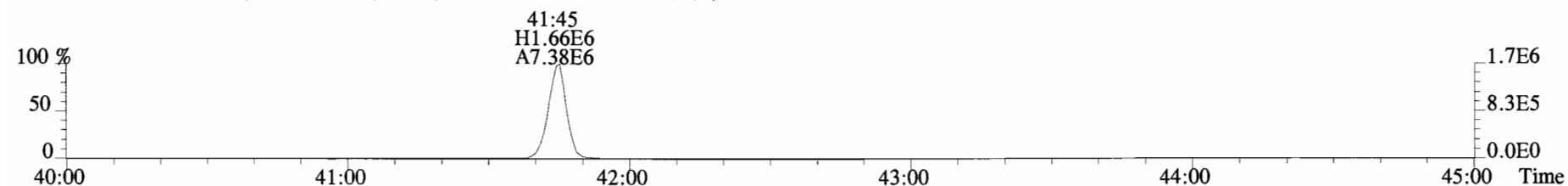
443.7398 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



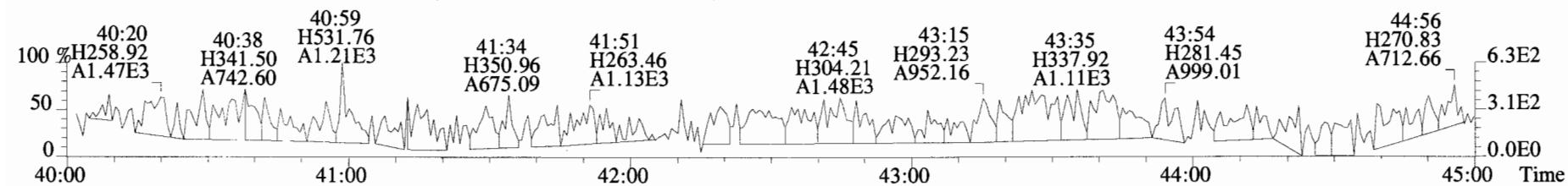
453.7831 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC19-190521 Filename: 190627D2 S:10 Acq:28-JUN-19 12:16:34
Lab ID: 1901246-17 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.035

ConCal: ST190627D2-1
EndCAL: NA

Page 9 of 9

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF	*		234	2.5	0.180
1,2,3,7,8-PeCDD	*	* n	0.87	NotF	*		266	2.5	0.258
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF	*		357	2.5	0.398
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF	*		357	2.5	0.412
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF	*		357	2.5	0.460
1,2,3,4,6,7,8-HpCDD	2.96e+04	1.18 y	0.99	37:40	1.5858		*	2.5	*
OCDD	2.47e+05	0.91 y	0.99	40:56	16.479		*	2.5	*
2,3,7,8-TCDF	*	* n	0.94	NotF	*		244	2.5	0.150
1,2,3,7,8-PeCDF	*	* n	0.92	NotF	*		243	2.5	0.206
2,3,4,7,8-PeCDF	*	* n	0.96	NotF	*		243	2.5	0.216
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF	*		218	2.5	0.0983
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF	*		218	2.5	0.100
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF	*		218	2.5	0.114
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF	*		218	2.5	0.179
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF	*		170	2.5	0.132
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF	*		170	2.5	0.137
OCDF	*	* n	0.94	NotF	*		197	2.5	0.244

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	0.592	0.592	*	*	*
Total Penta-Dioxins	*	*		266	0.258
Total Hexa-Dioxins	1.43	1.43	*	*	*
Total Hepta-Dioxins	4.57	4.57	*	*	*
Total Tetra-Furans	*	*		244	0.150
Total Penta-Furans	0.0000	0.0000		243	0.211
Total Hexa-Furans	*	*		218	0.121
Total Hepta-Furans	*	*		170	0.134

							Rec	Qual
IS	13C-2,3,7,8-TCDD	1.02e+07	0.79 y	1.11	26:01	358.43	90.2	
IS	13C-1,2,3,7,8-PeCDD	7.55e+06	0.64 y	0.98	30:31	300.37	75.6	
IS	13C-1,2,3,4,7,8-HxCDD	7.03e+06	1.28 y	0.68	33:47	331.34	83.4	
IS	13C-1,2,3,6,7,8-HxCDD	8.49e+06	1.27 y	0.84	33:54	321.27	80.9	
IS	13C-1,2,3,7,8,9-HxCDD	8.13e+06	1.29 y	0.81	34:13	318.94	80.3	
IS	13C-1,2,3,4,6,7,8-HpCDD	7.50e+06	1.08 y	0.69	37:40	348.23	87.7	
IS	13C-OCDD	1.21e+07	0.92 y	0.62	40:56	616.50	77.6	
IS	13C-2,3,7,8-TCDF	1.42e+07	0.82 y	1.05	25:16	318.30	80.1	
IS	13C-1,2,3,7,8-PeCDF	1.20e+07	1.70 y	0.95	29:21	294.97	74.3	
IS	13C-2,3,4,7,8-PeCDF	1.13e+07	1.64 y	0.94	30:15	284.32	71.6	
IS	13C-1,2,3,4,7,8-HxCDF	9.28e+06	0.52 y	0.86	32:54	344.73	86.8	
IS	13C-1,2,3,6,7,8-HxCDF	1.13e+07	0.52 y	1.02	33:02	351.46	88.5	
IS	13C-2,3,4,6,7,8-HxCDF	1.03e+07	0.52 y	0.95	33:38	343.89	86.6	
IS	13C-1,2,3,7,8,9-HxCDF	9.59e+06	0.51 y	0.87	34:38	352.07	88.6	
IS	13C-1,2,3,4,6,7,8-HpCDF	8.36e+06	0.46 y	0.81	36:26	329.39	82.9	
IS	13C-1,2,3,4,7,8,9-HpCDF	6.98e+06	0.47 y	0.63	38:14	351.53	88.5	
IS	13C-OCDF	1.56e+07	0.90 y	0.78	41:10	634.99	79.9	
C/Up	37C1-2,3,7,8-TCDD	4.36e+06		1.22	26:03	139.06	87.5	
RS/RT	13C-1,2,3,4-TCDD	1.02e+07	0.79 y	1.00	25:26	397.25		
RS	13C-1,2,3,4-TCDF	1.69e+07	0.80 y	1.00	24:02	397.25		
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.25e+07	0.51 y	1.00	33:19	397.25		

Integrations
by DB
Analyst: DB
Date: 8/5/19
Reviewed
by CT
Analyst: CT
Date: 08/08/19

Totals class: TCDD EMPC

Entry #: 19

Run: 15

File: 190627D2

S: 10 I: 1 F: 1

Acquired: 28-JUN-19 12:16:34

Processed: 28-JUN-19 14:14:14

Total Concentration: 0.59183

Unnamed Concentration: 0.592

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
24:09	6.115e+03	7.593e+03	0.81 y	1.371e+04	0.59183

Totals class: HxCDD EMPC

Entry #: 23

Run: 15

File: 190627D2

S: 10 I: 1 F: 3

Acquired: 28-JUN-19 12:16:34

Processed: 28-JUN-19 14:14:14

Total Concentration: 1.4293

Unnamed Concentration: 1.429

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:17	1.614e+04	1.154e+04	1.40 y	2.768e+04	1.4293

Totals class: HpCDD EMPC

Entry #: 25

Run: 15

File: 190627D2

S: 10 I: 1 F: 4

Acquired: 28-JUN-19 12:16:34

Processed: 28-JUN-19 14:14:14

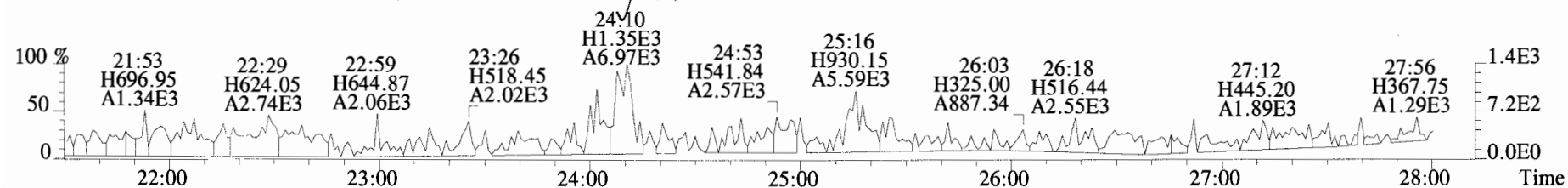
Total Concentration: 4.5656

Unnamed Concentration: 2.980

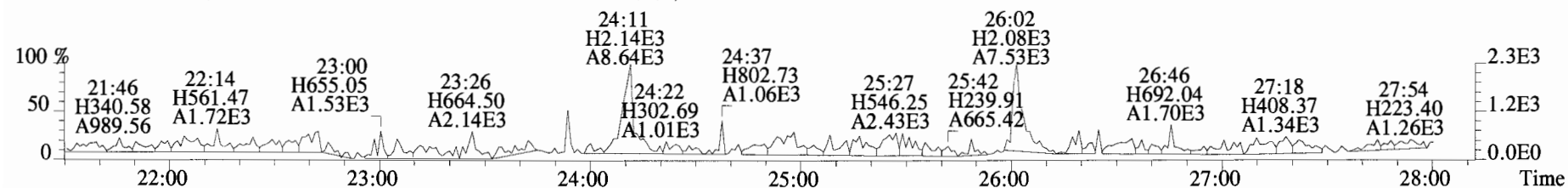
RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:49	2.897e+04	2.666e+04	1.09 y	5.563e+04	2.9798
37:40	1.603e+04	1.357e+04	1.18 y	2.960e+04	1.5858

1,2,3,4,6,7,8-HpCDD

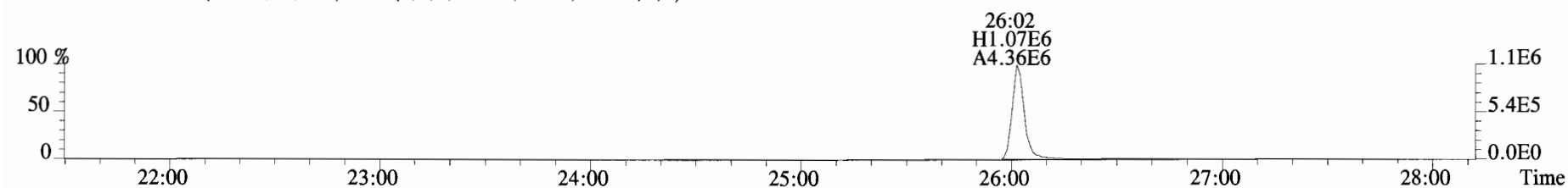
File:190627D2 #1-514 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
319.8965 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



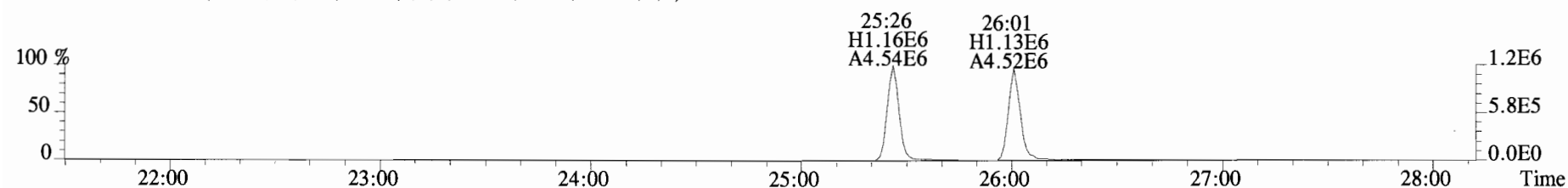
321.8936 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



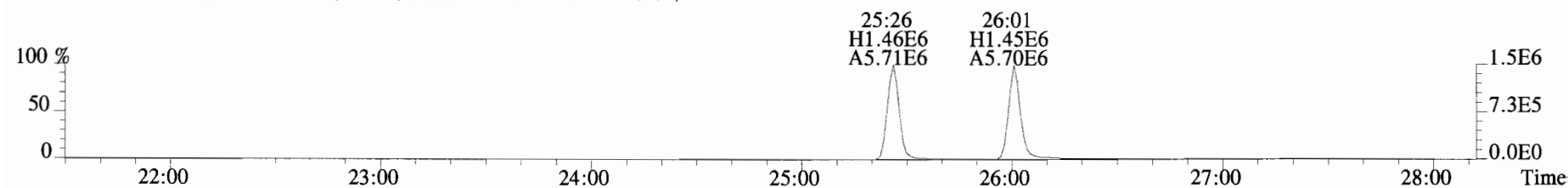
327.8847 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



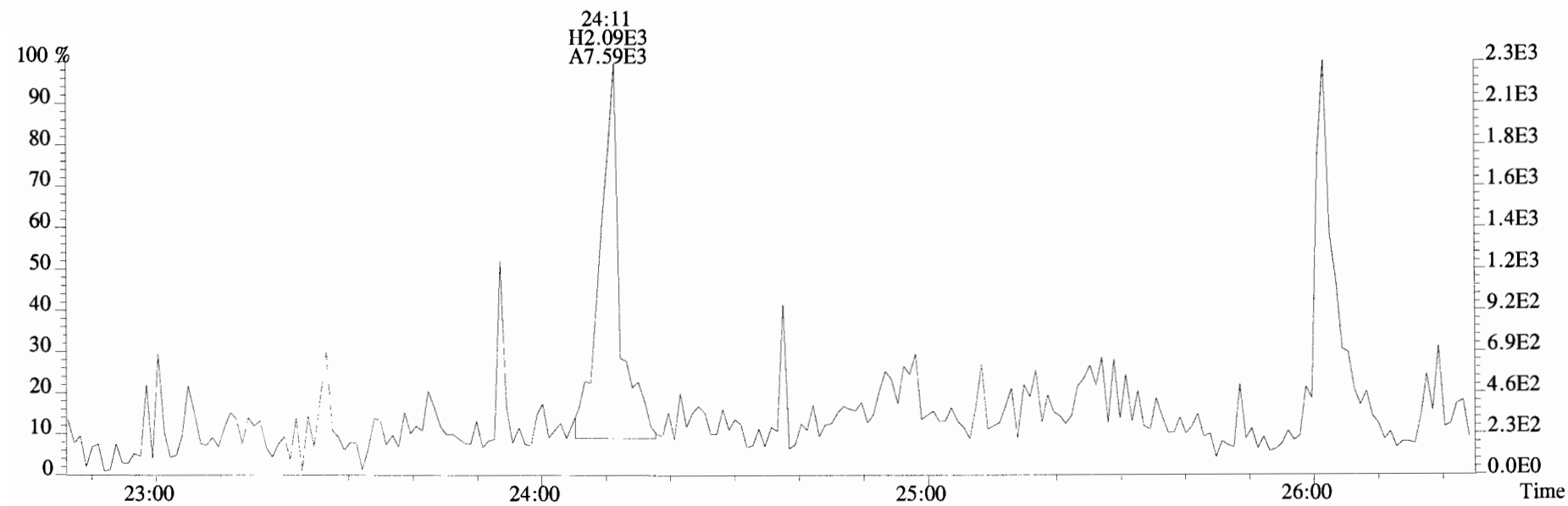
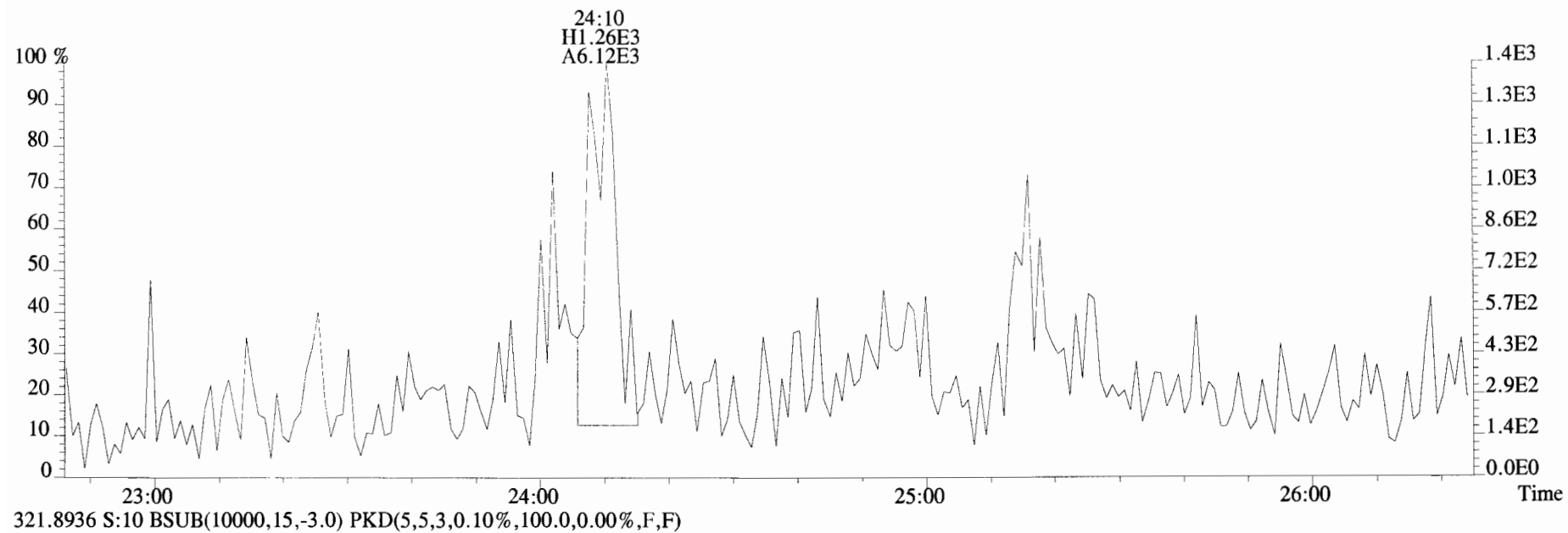
331.9368 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



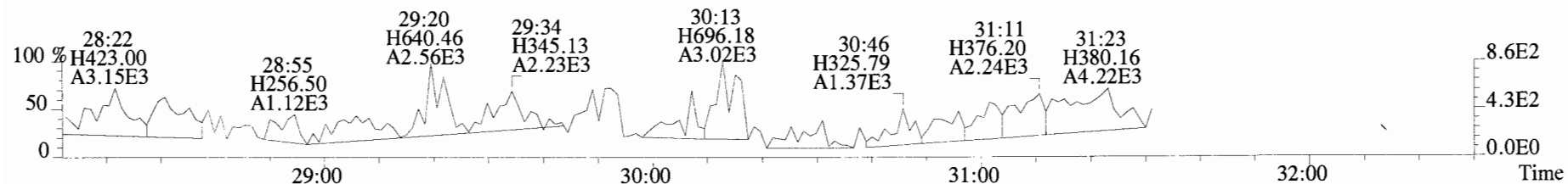
333.9339 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



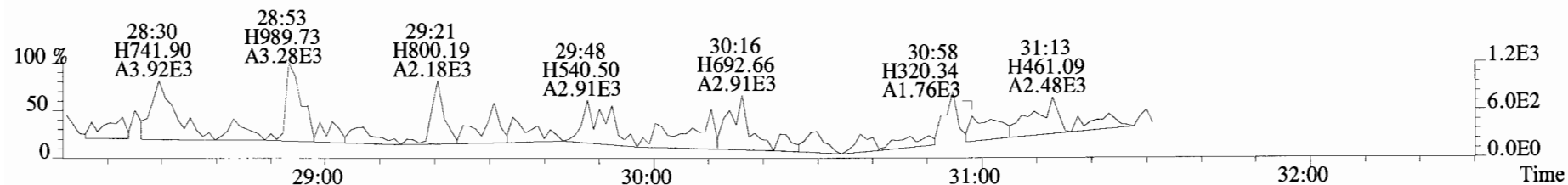
File:190627D2 #1-514 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
319.8965 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



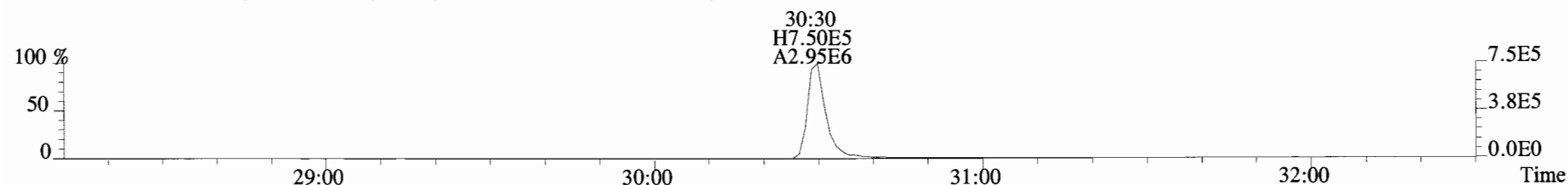
File:190627D2 #1-185 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
353.8576 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



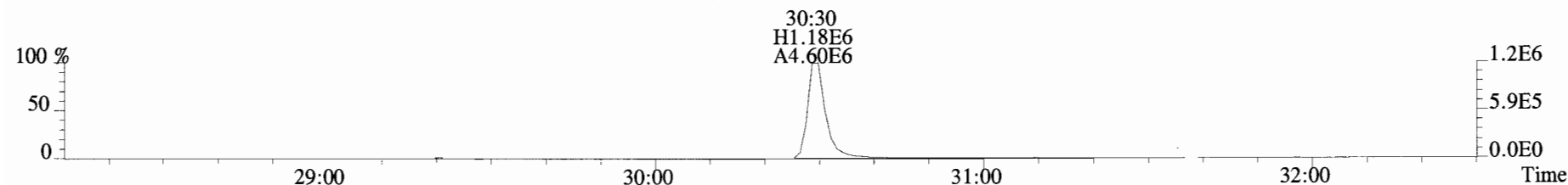
355.8546 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



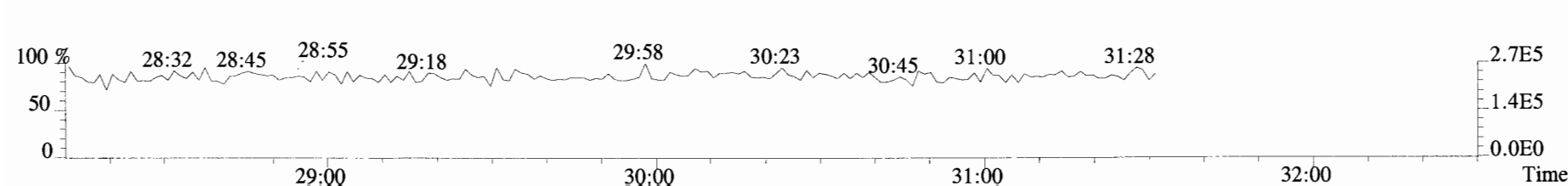
365.8978 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



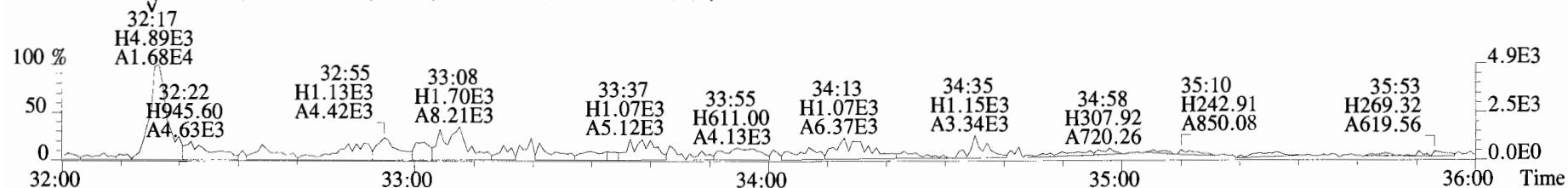
367.8949 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



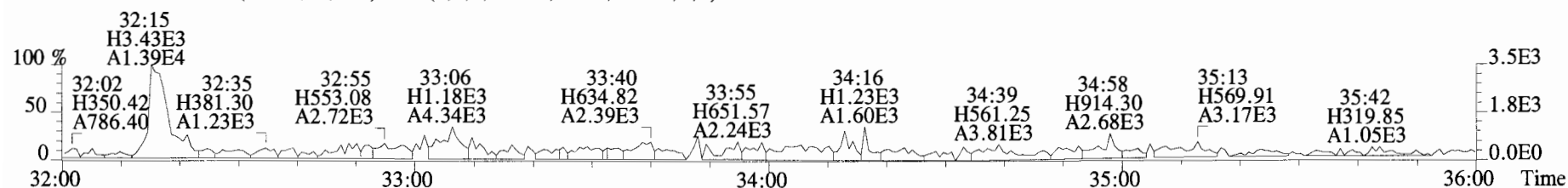
366.9792 S:10 F:2



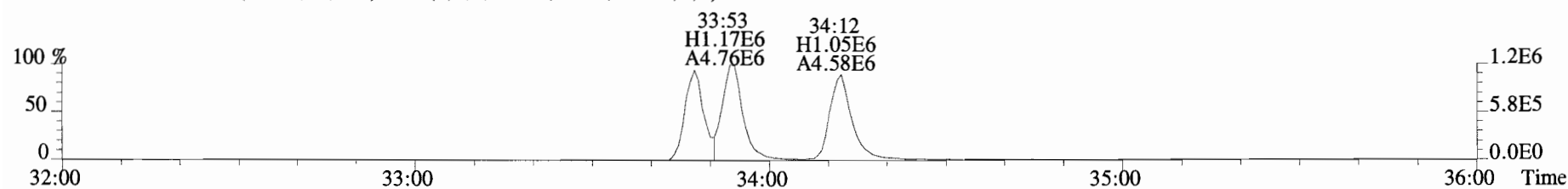
File:190627D2 #1-399 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
 389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



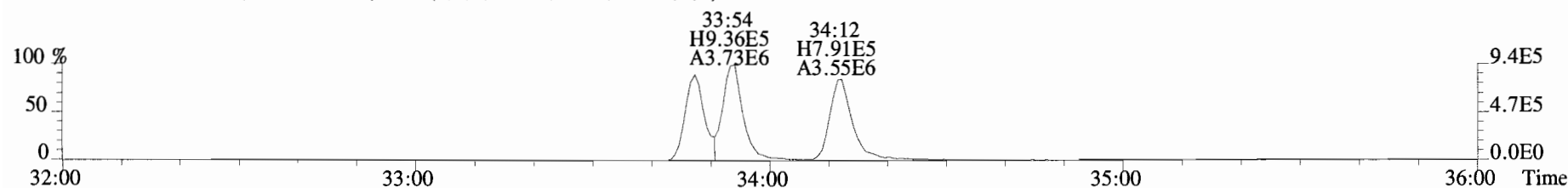
391.8127 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



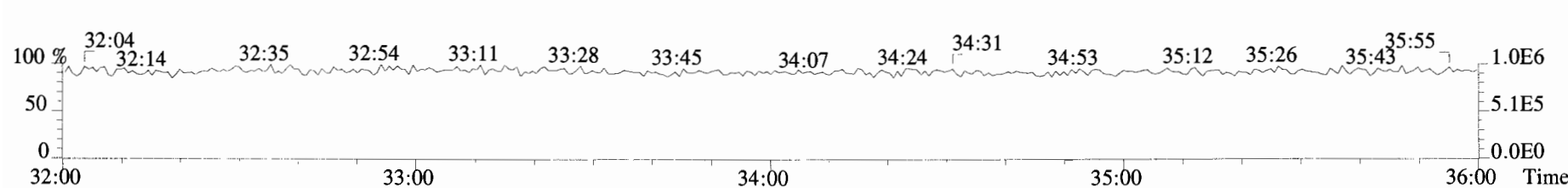
401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



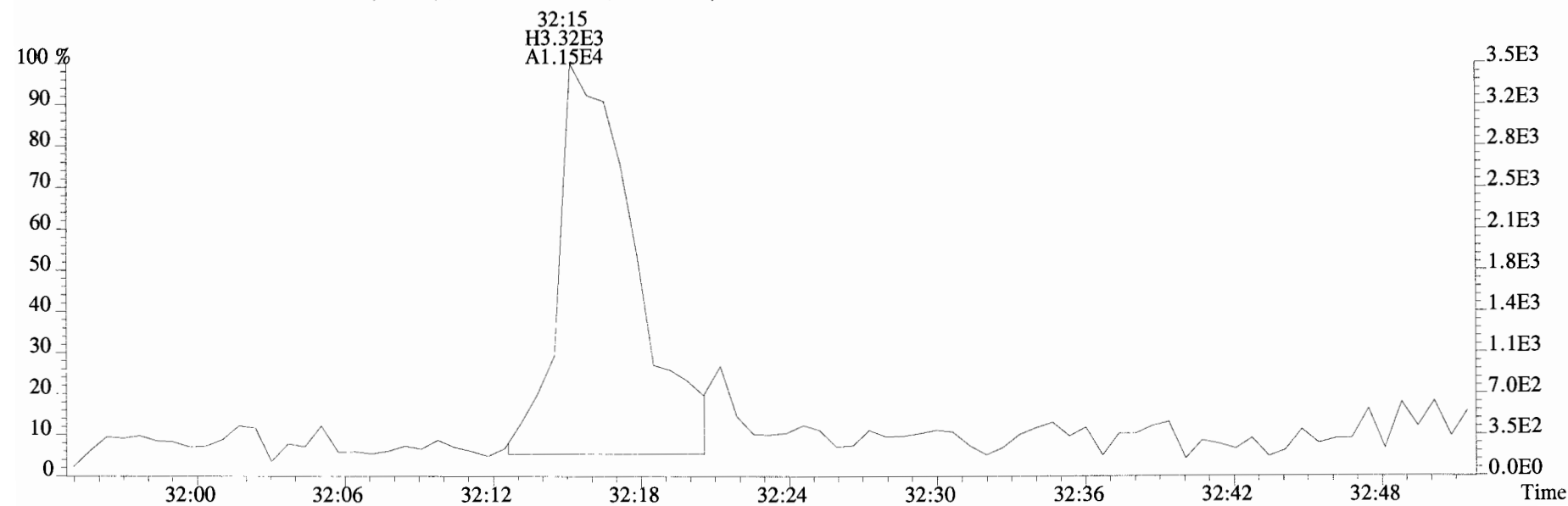
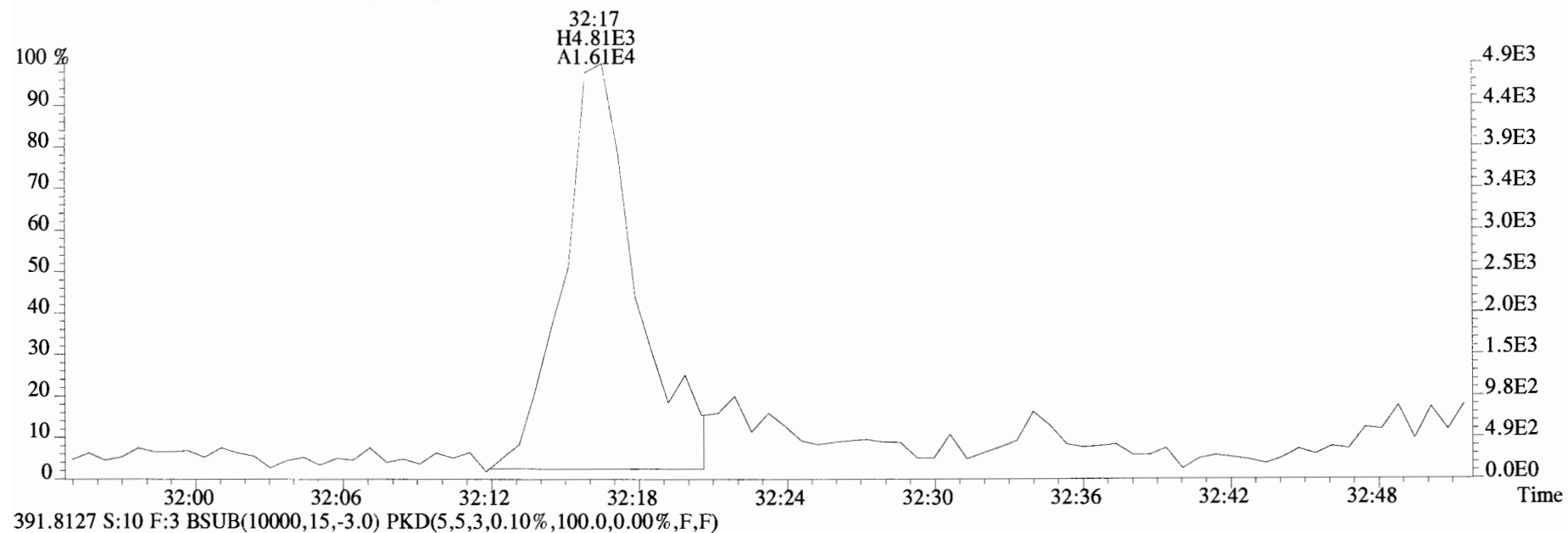
403.8530 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



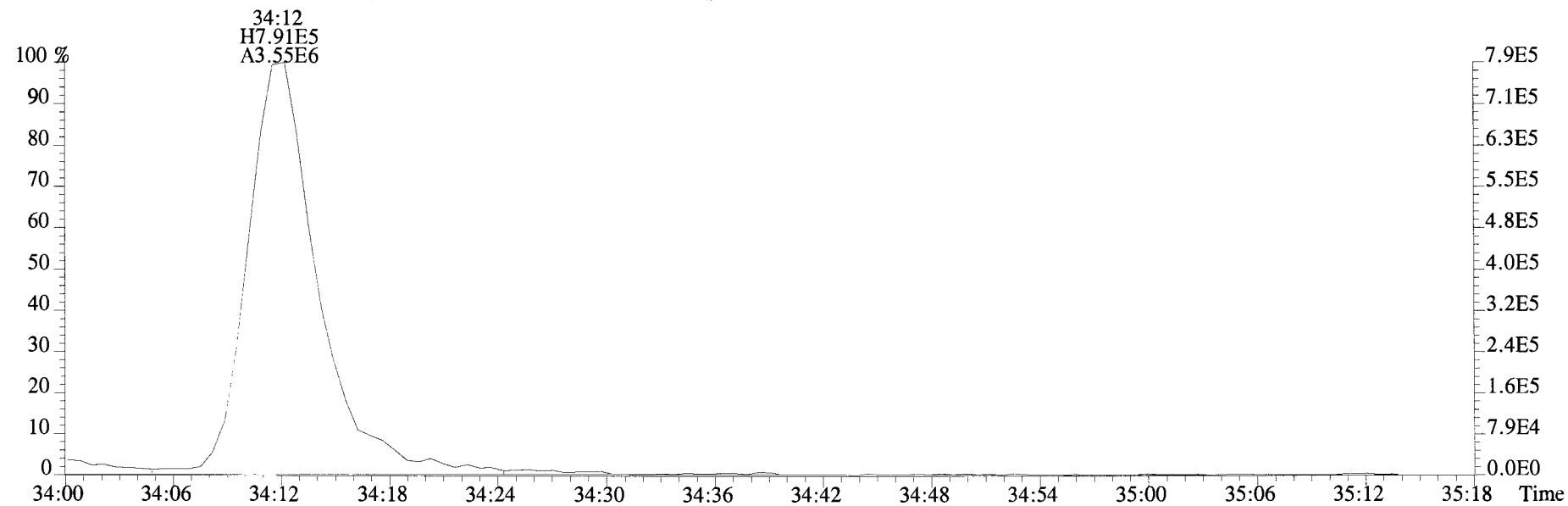
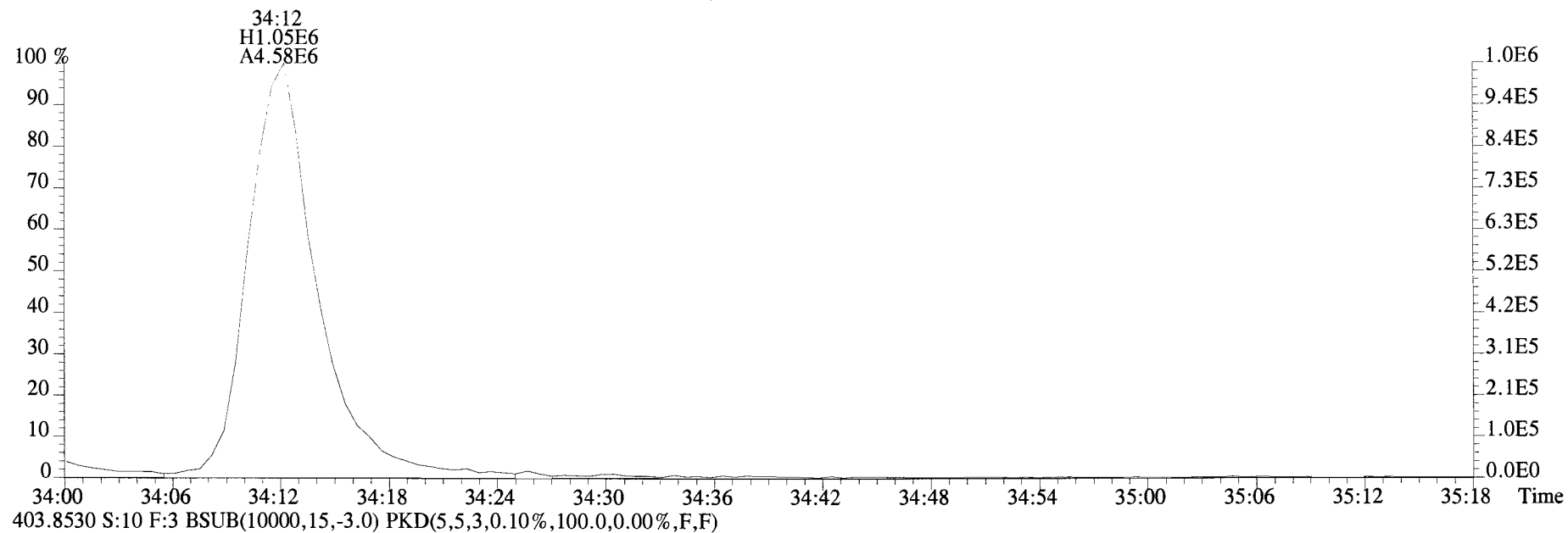
392.9760 S:10 F:3



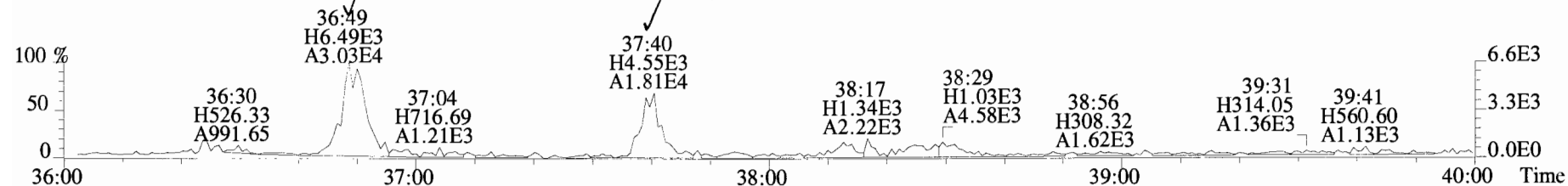
File:190627D2 #1-399 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



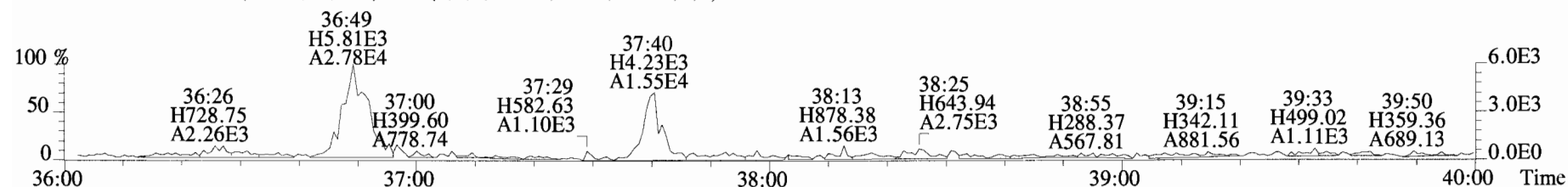
File:190627D2 #1-399 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



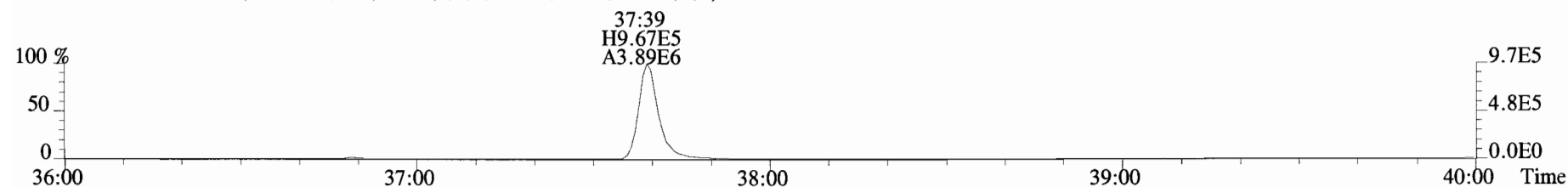
File:190627D2 #1-355 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



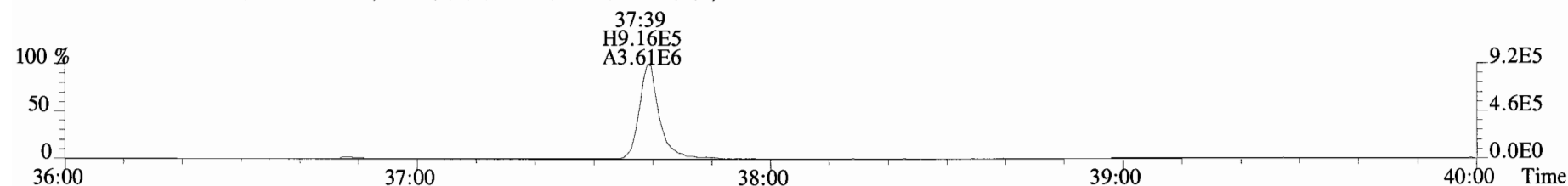
425.7737 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



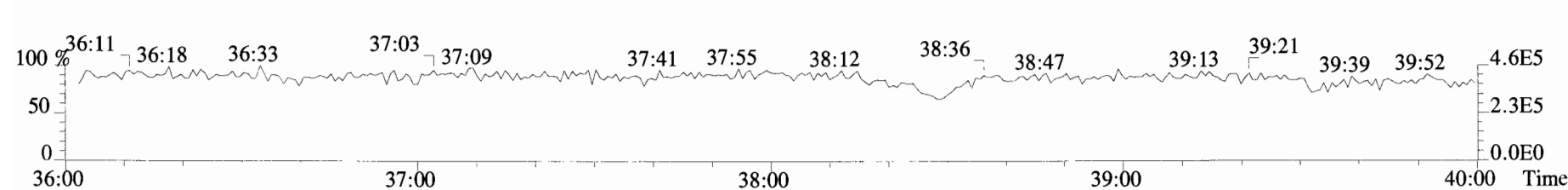
435.8169 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



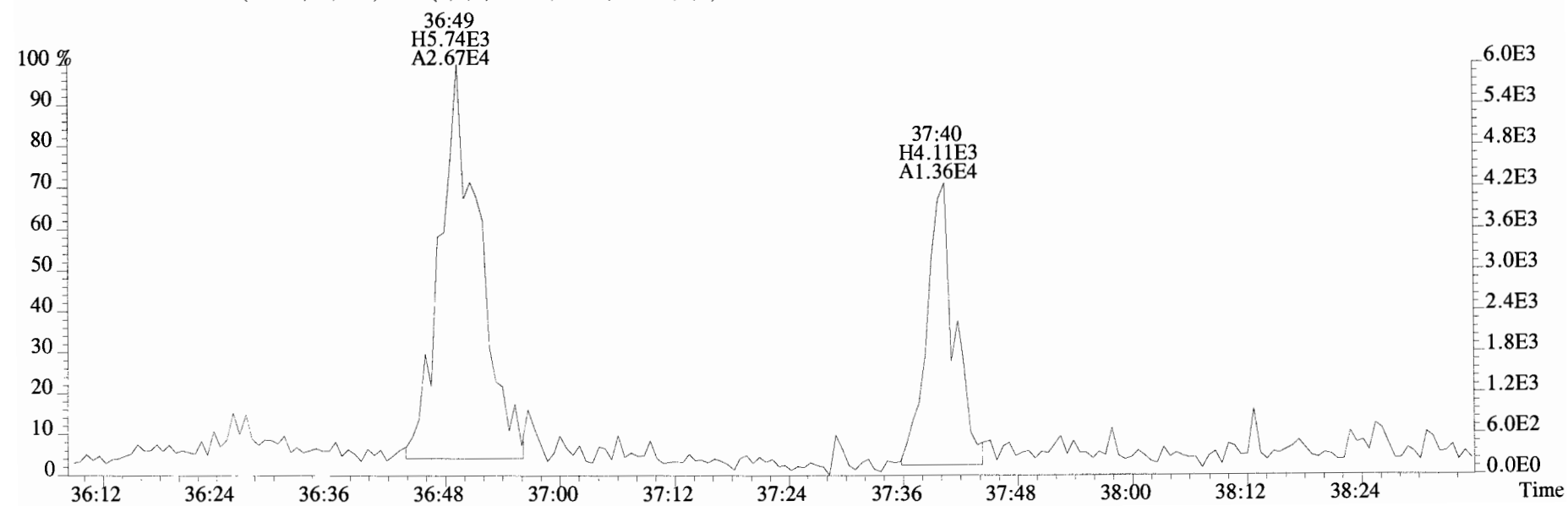
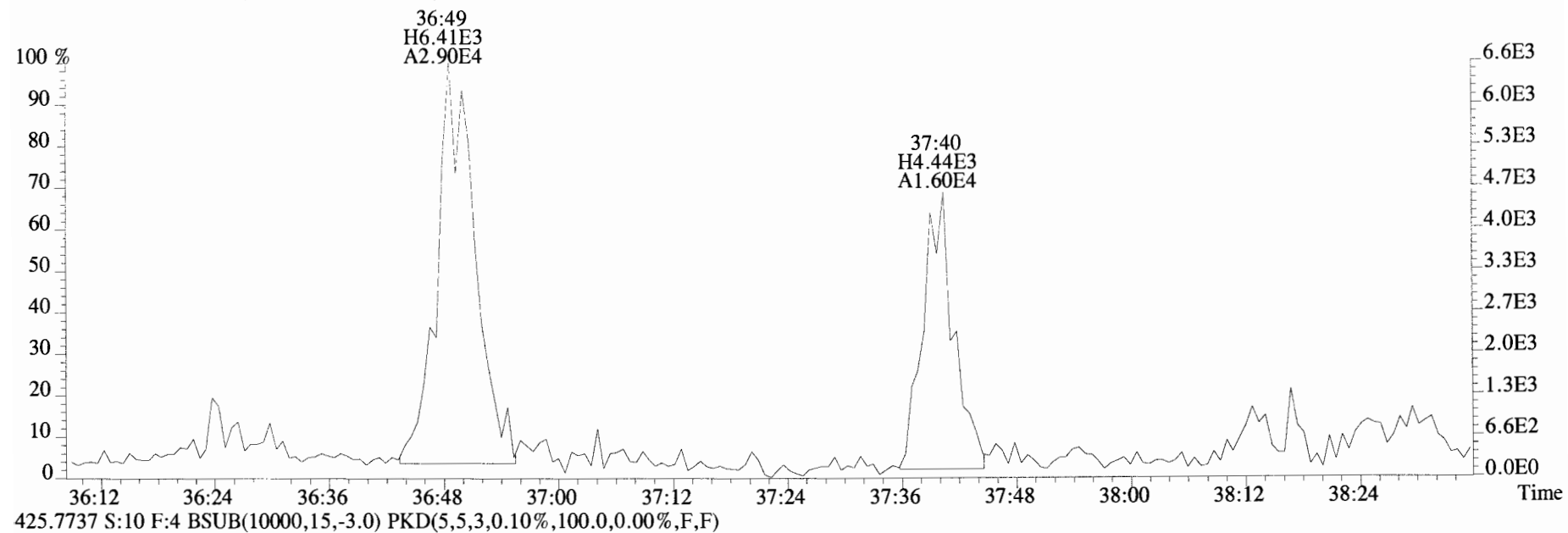
437.8140 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



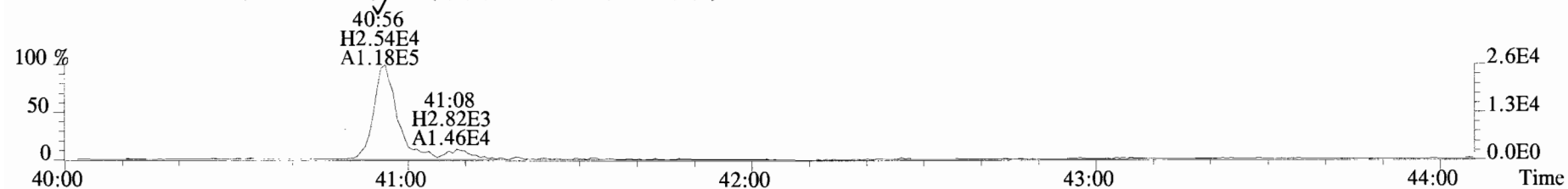
454.9728 S:10 F:4



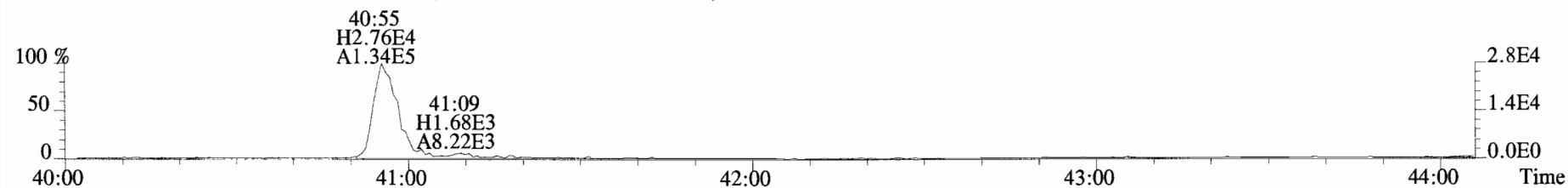
File:190627D2 #1-355 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
 423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



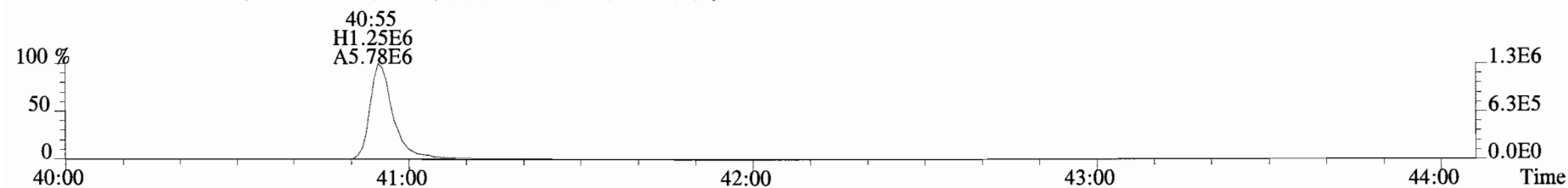
File:190627D2 #1-432 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
 457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



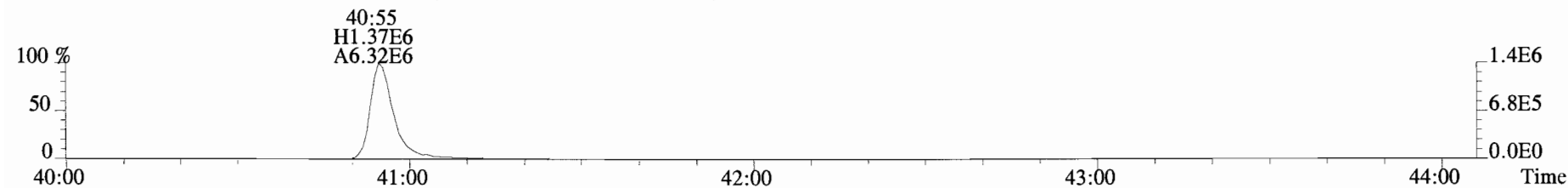
459.7348 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



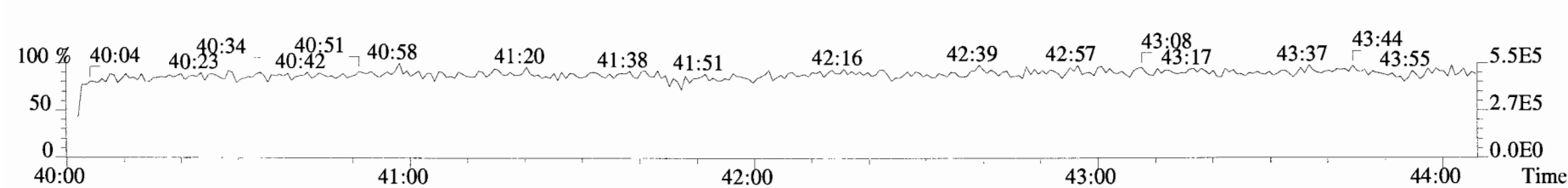
469.7780 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



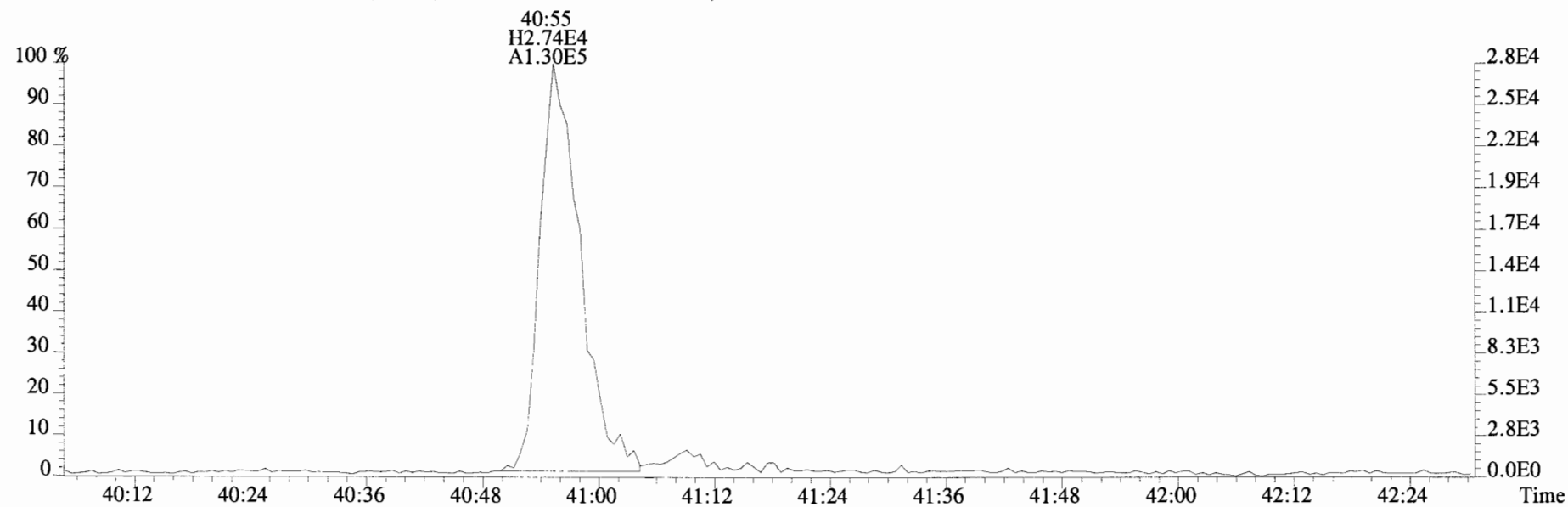
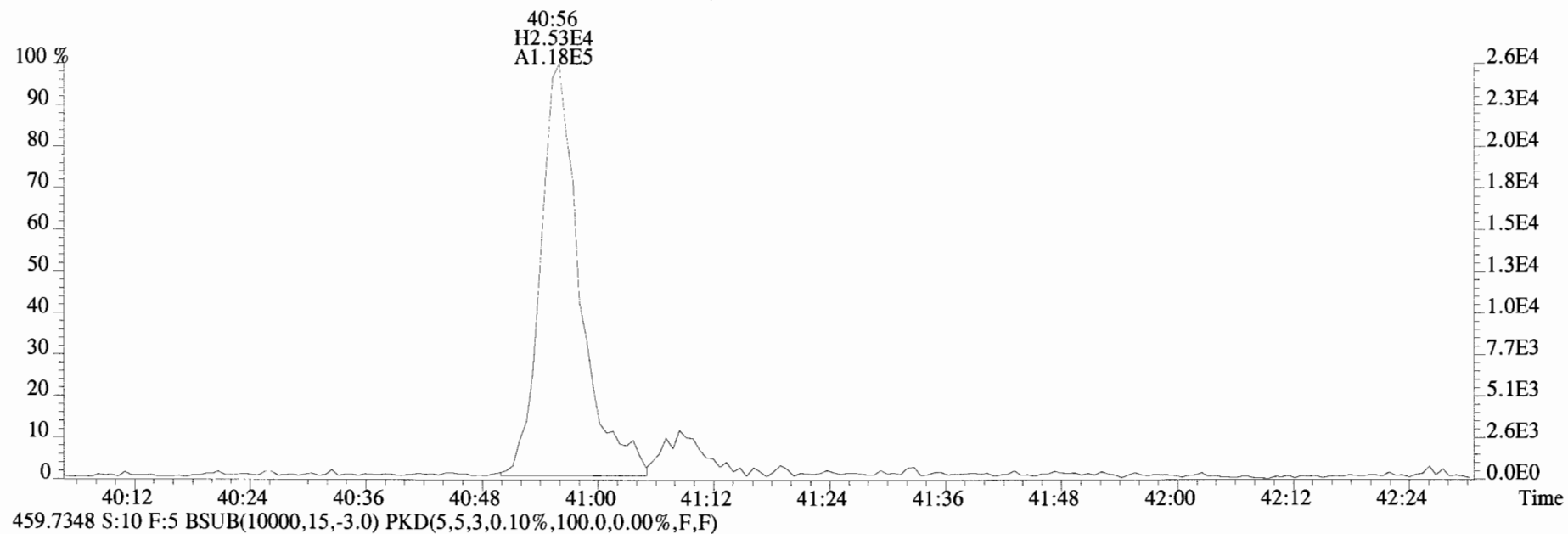
471.7750 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



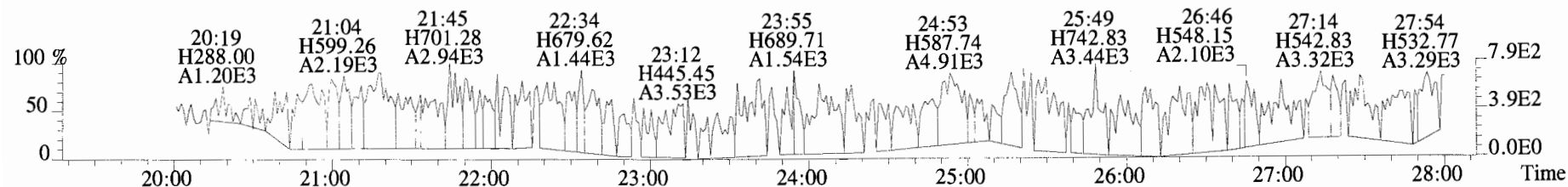
454.9728 S:10 F:5



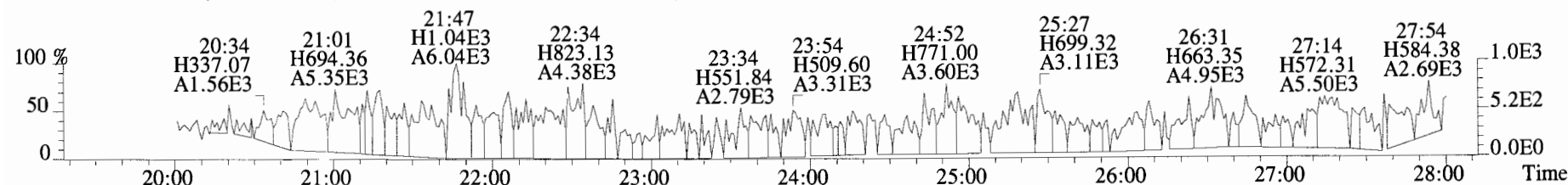
File:190627D2 #1-432 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



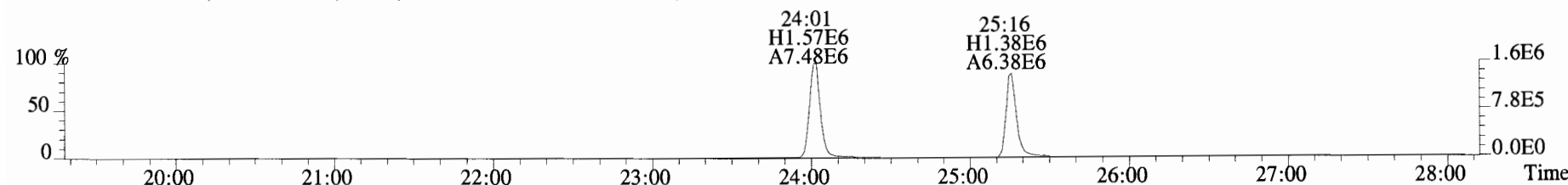
File:190627D2 #1-514 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
303.9016 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



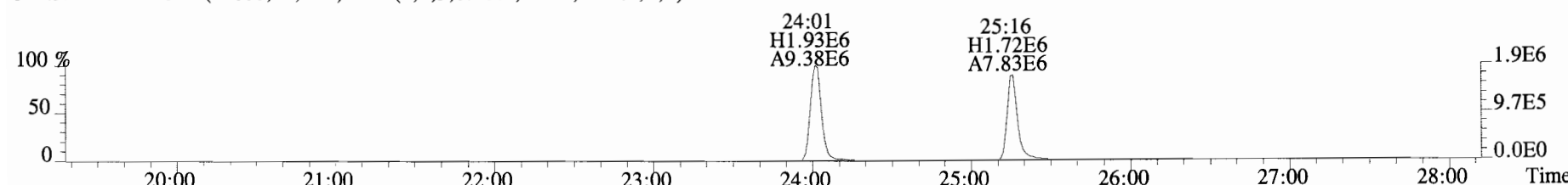
305.8987 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



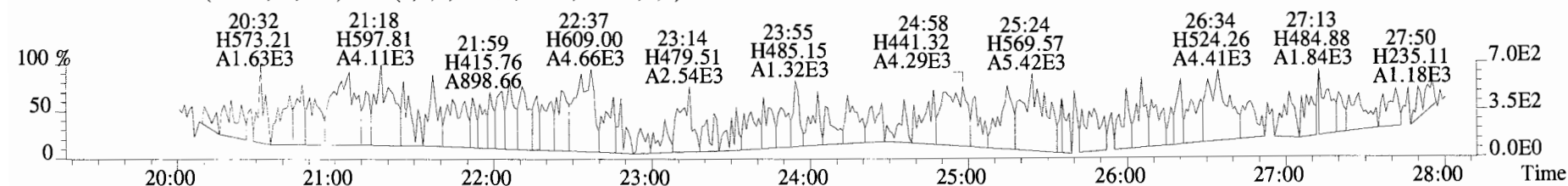
315.9419 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



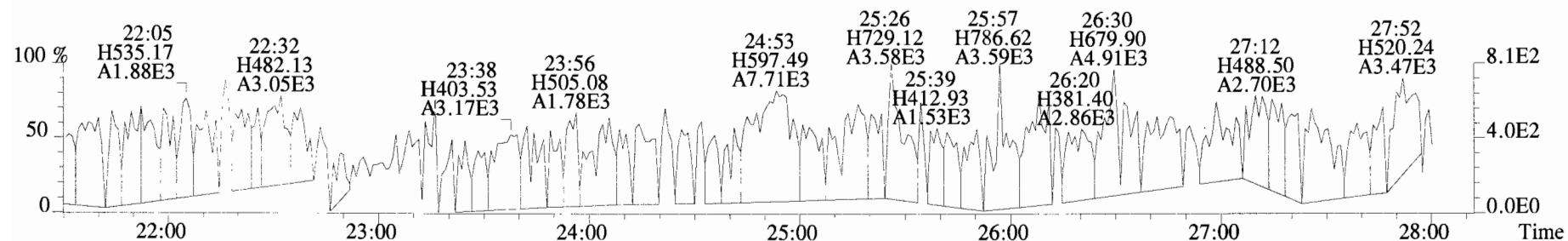
317.9389 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



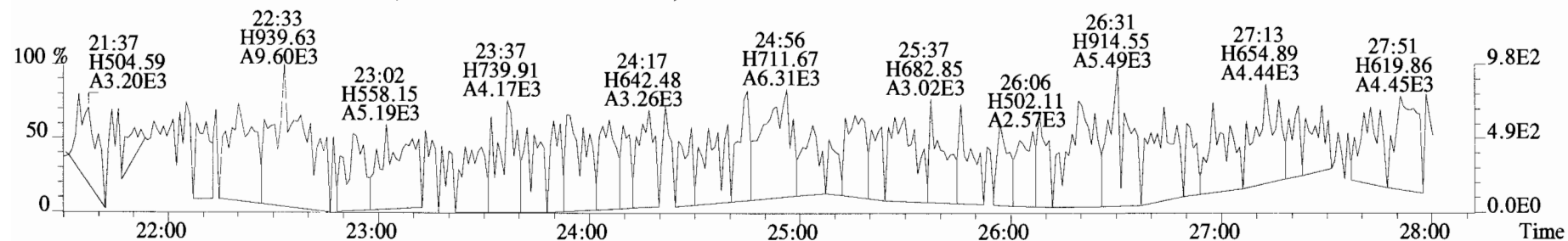
375.8364 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



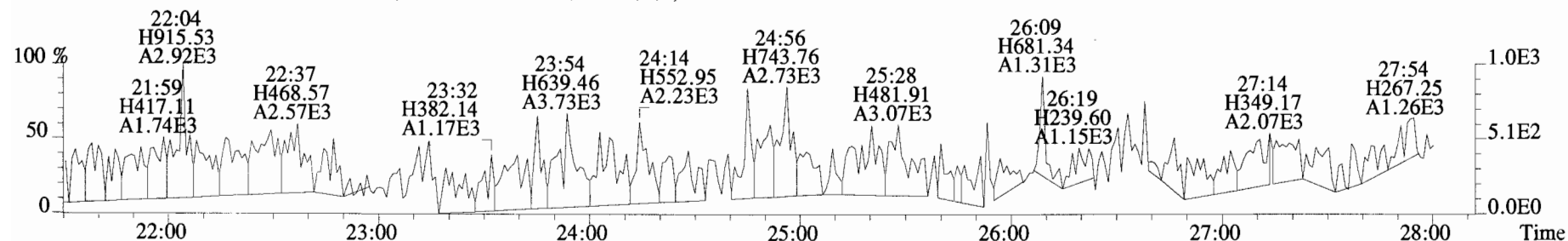
File:190627D2 #1-514 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
339.8597 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



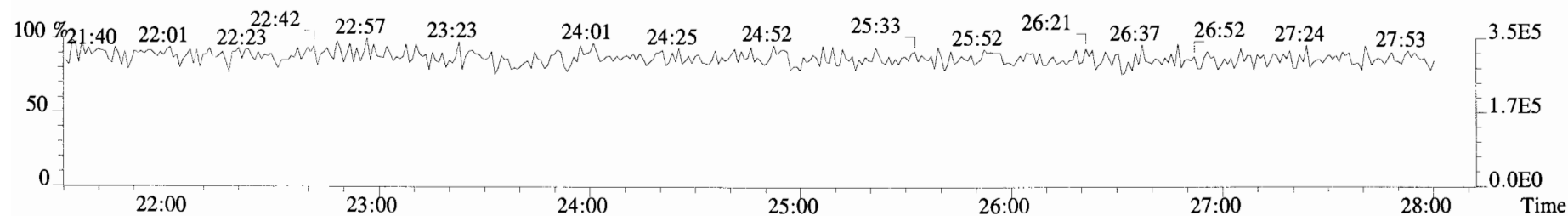
341.8568 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



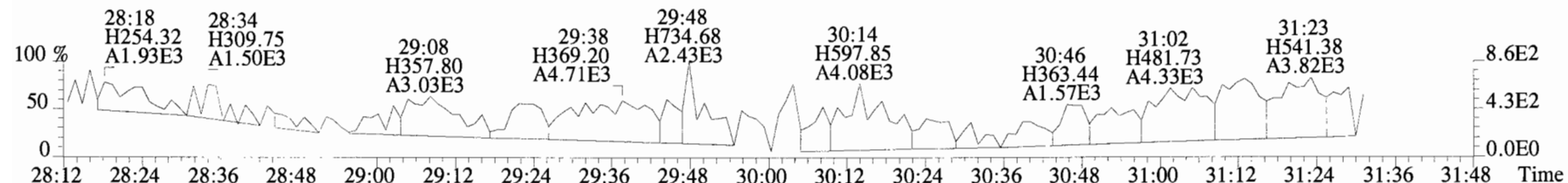
409.7974 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



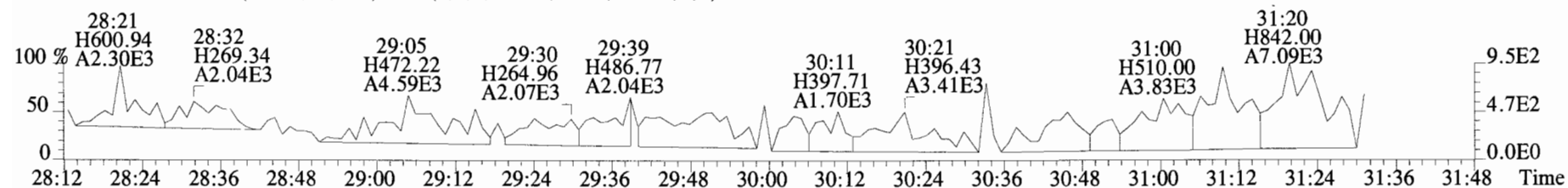
316.9824 S:10



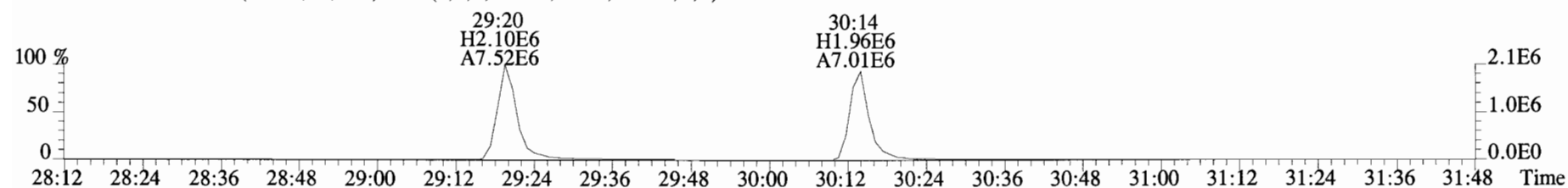
File:190627D2 #1-185 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
339.8597 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



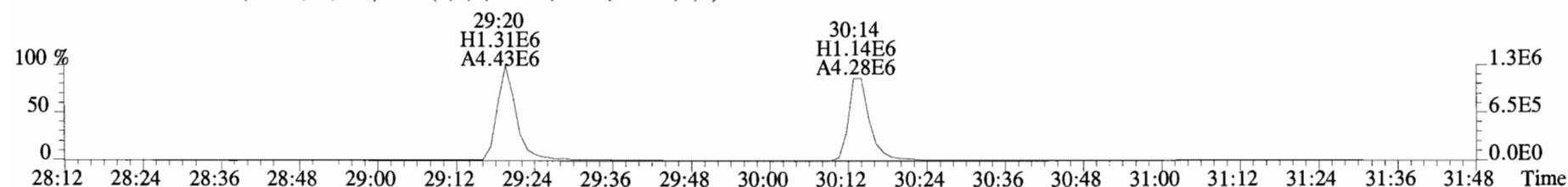
341.8568 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



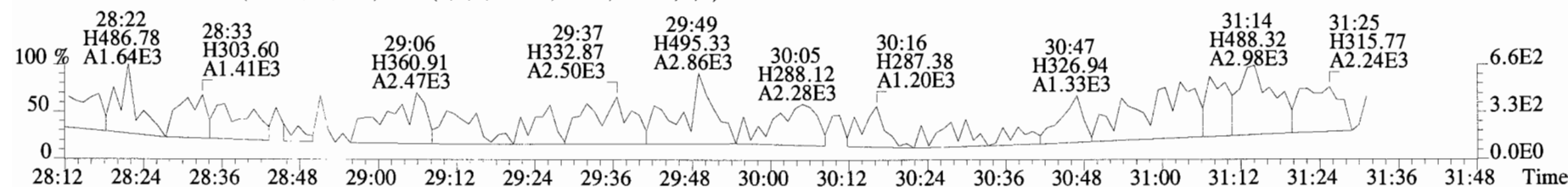
351.9000 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



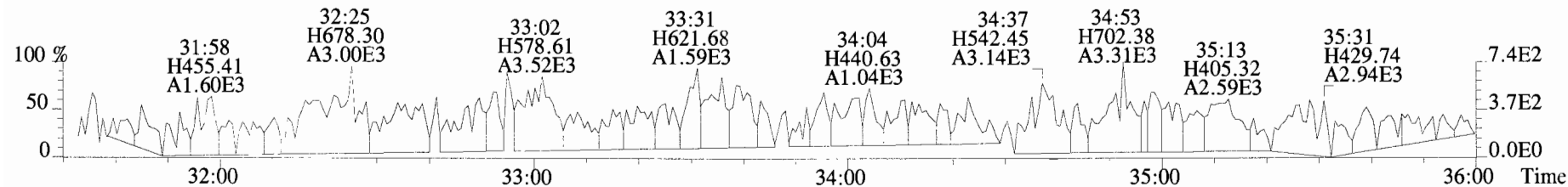
353.8970 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



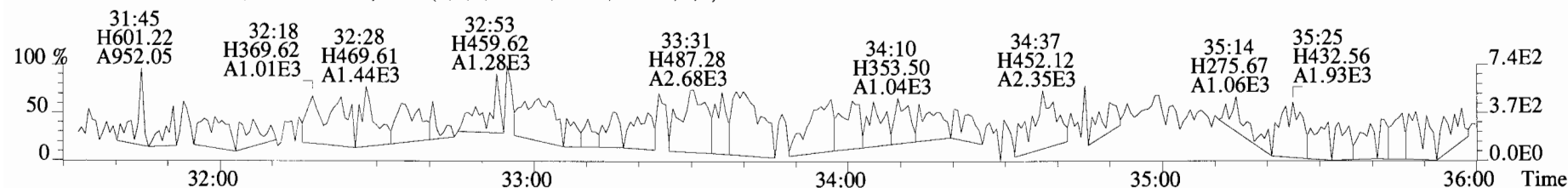
409.7974 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



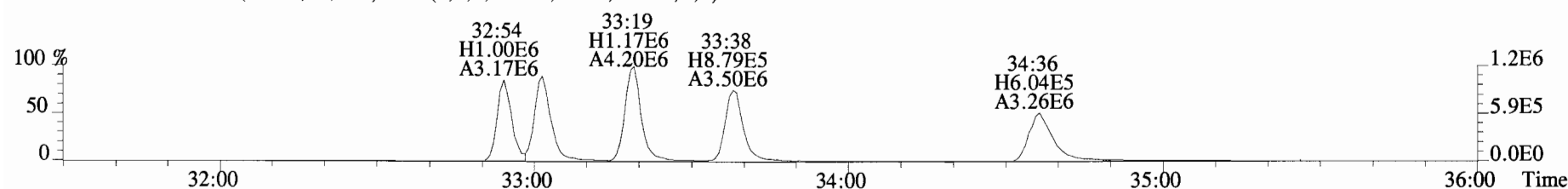
File:190627D2 #1-399 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
373.8207 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



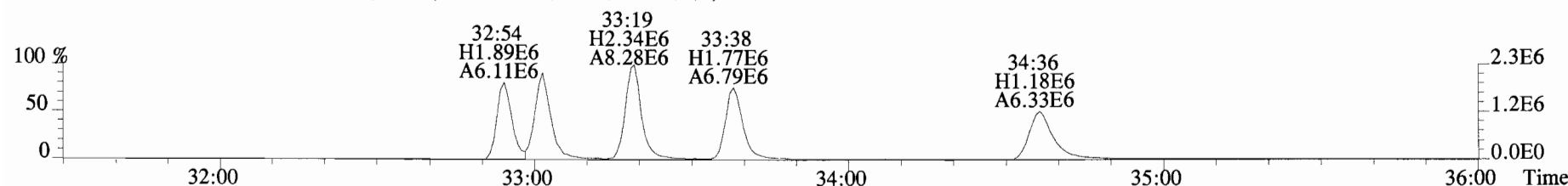
375.8178 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



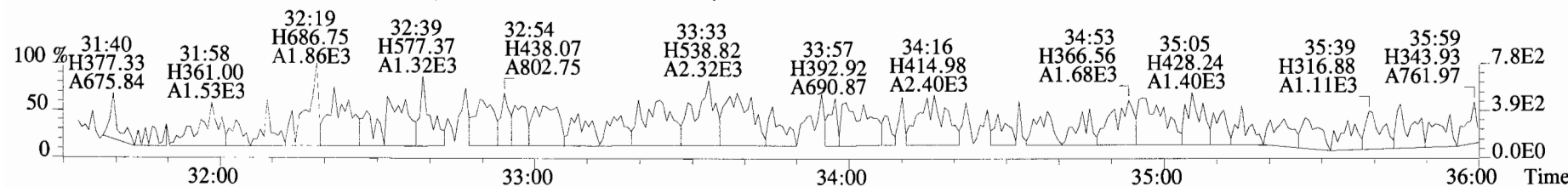
383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



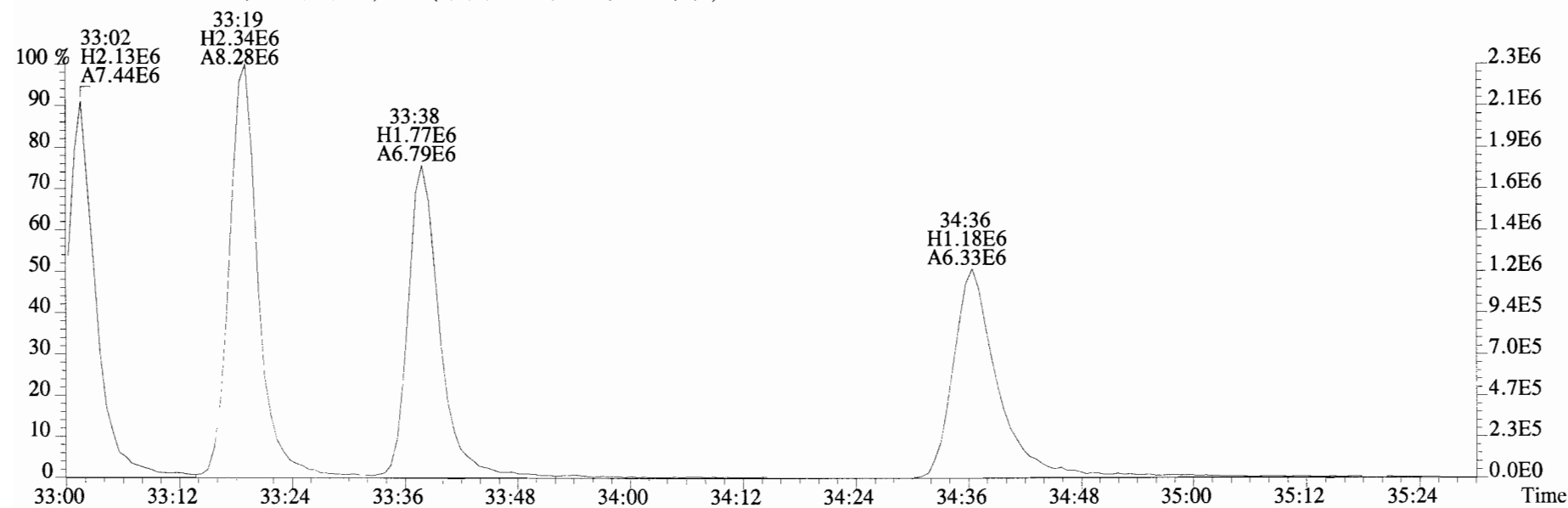
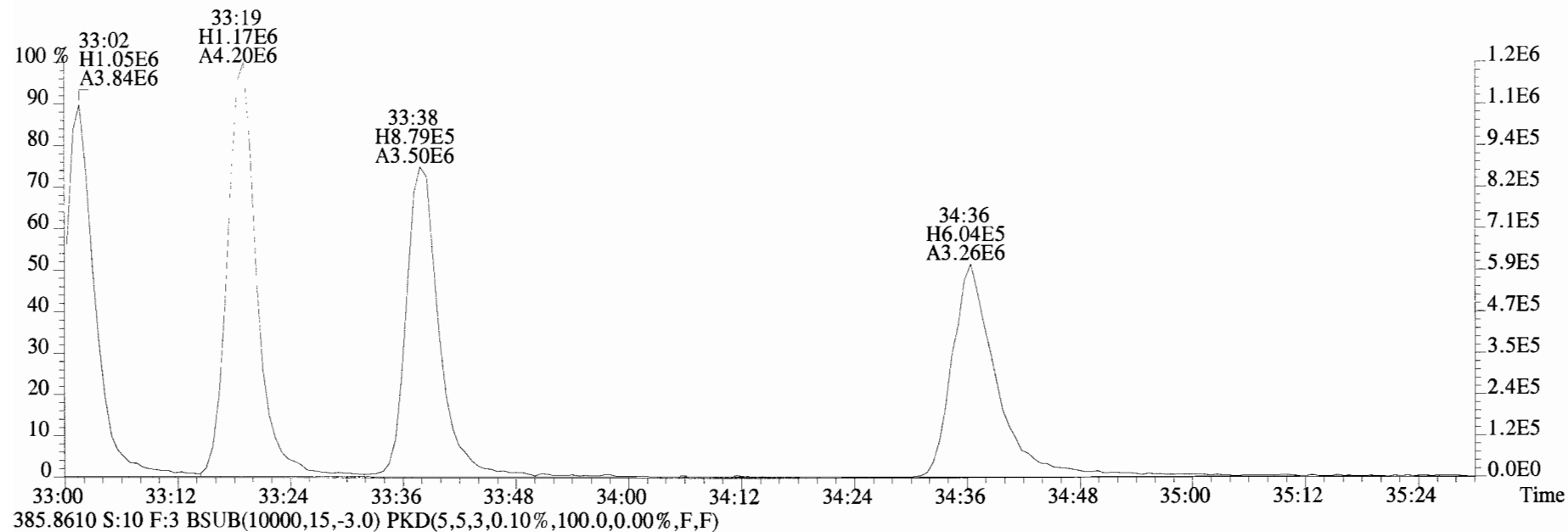
385.8610 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



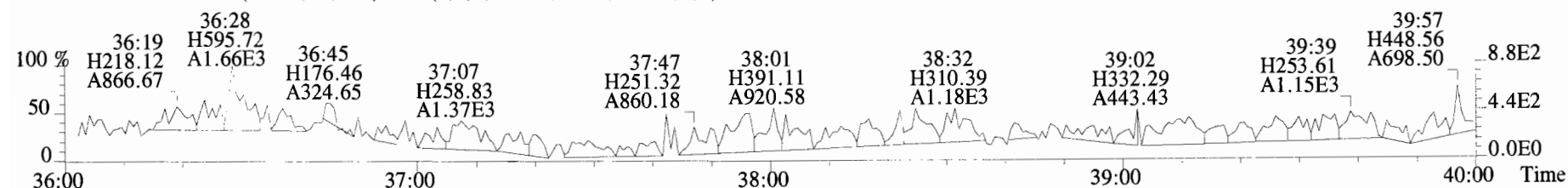
445.7555 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



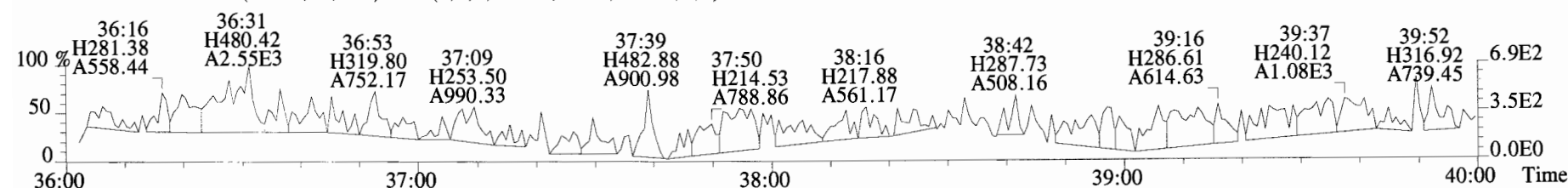
File:190627D2 #1-399 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista Analytical Laboratory VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
 383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



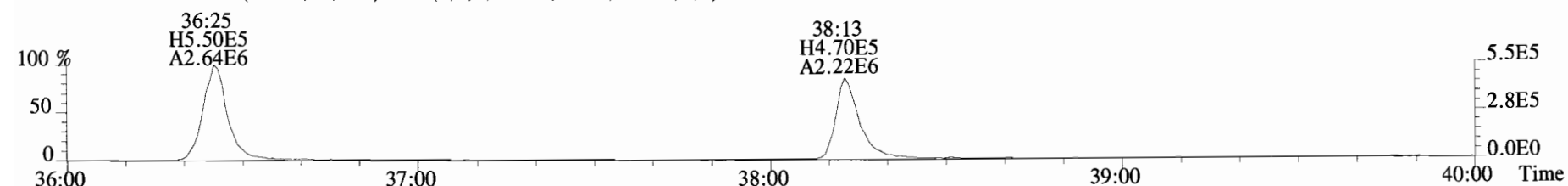
File:190627D2 #1-355 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista_Analytical_Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
 407.7818 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



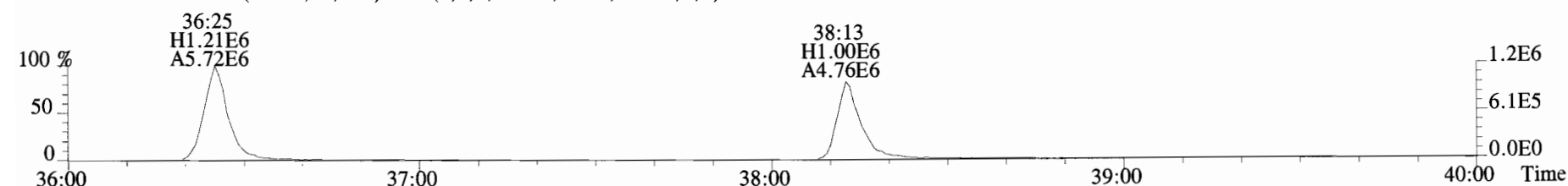
409.7788 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



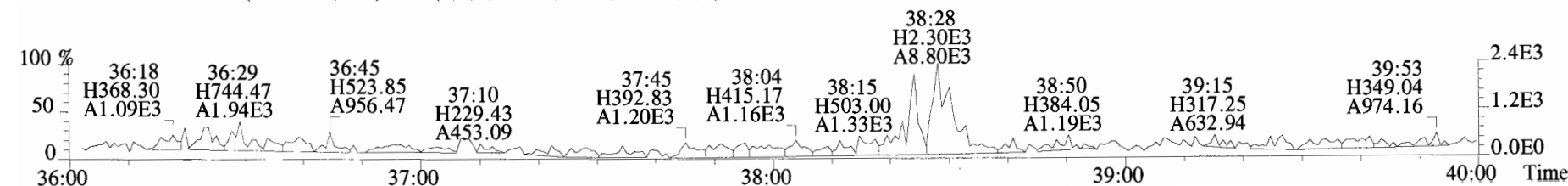
417.8253 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



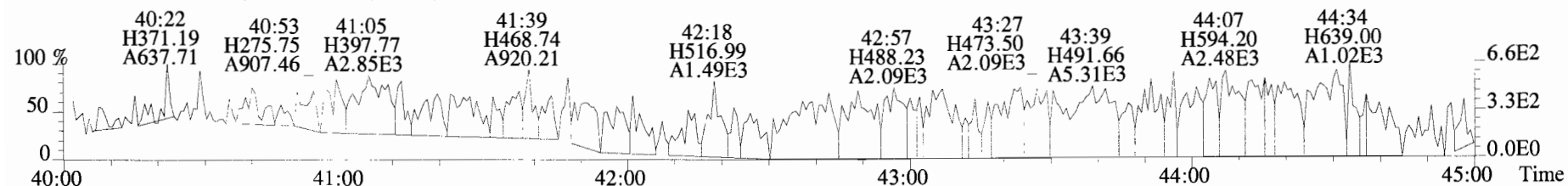
419.8220 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



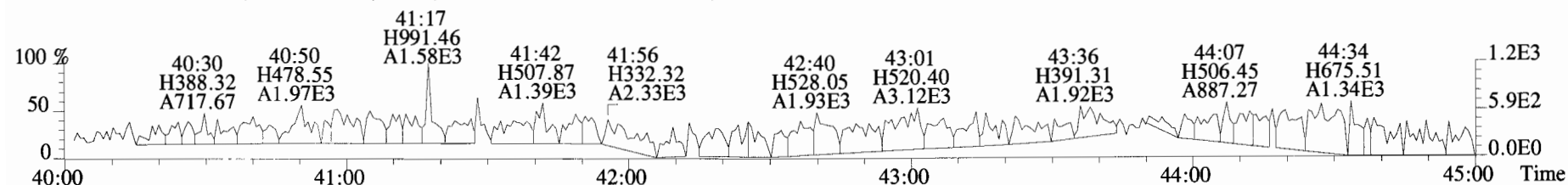
479.7165 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



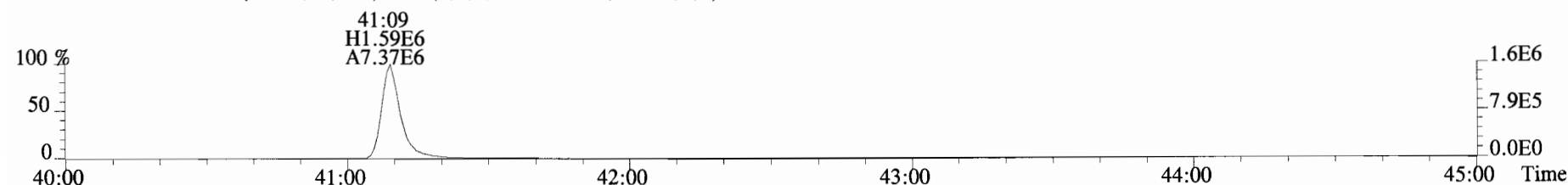
File:190627D2 #1-432 Acq:28-JUN-2019 12:16:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory_VG7 Text:1901246-17 T4-PDI2019-SC19-190521-11-11.8 7.66 Exp:OCDD_DB5
441.7428 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



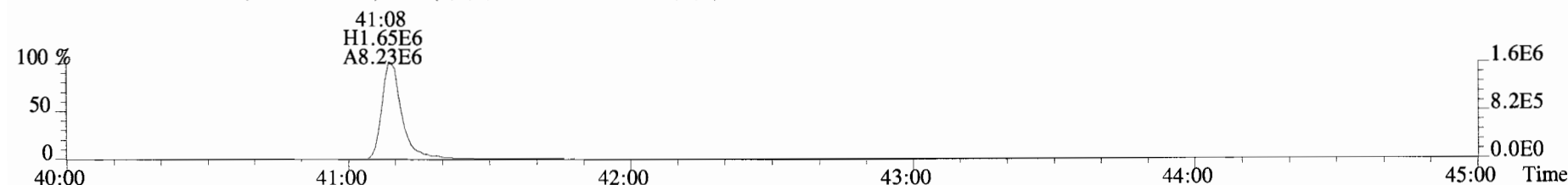
443.7398 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



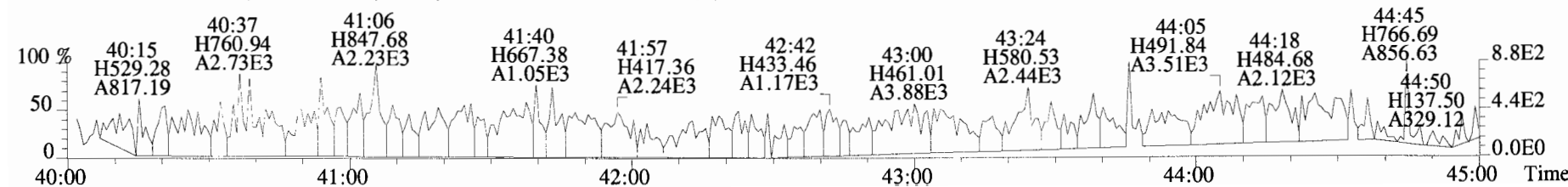
453.7831 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



CONFIRMATION

Client ID: T4-PDI2019-SC12-190521 Filename: 190719D1 S:12 Acq:19-JUL-19 22:54:17 ConCal: ST190719D1-1
Lab ID: 1901246-01RE1 GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 5.007 EndCAL: NA

Page 10 of 10

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	2.12e+07	0.81 y	15:14	1.00	399.5	-
13C-2,3,7,8-TCDF	1.28e+07	0.82 y	17:21	1.02	235.3	58.9
2,3,7,8-TCDF	4.75e+04	0.87 y	17:22	0.95	1.566	

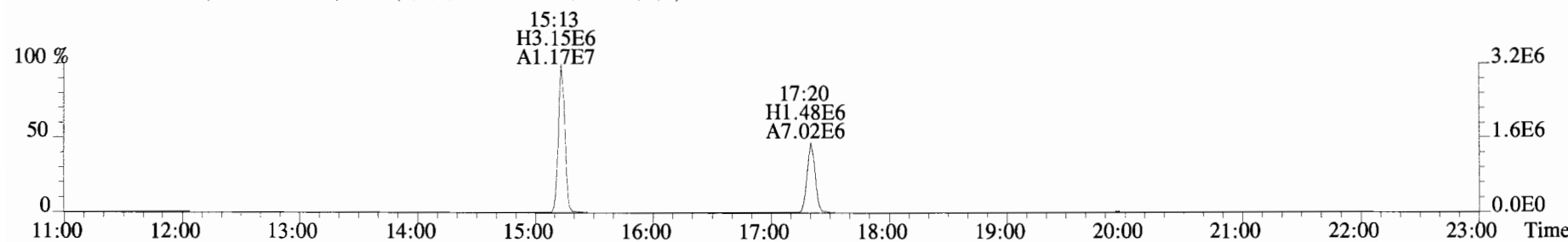
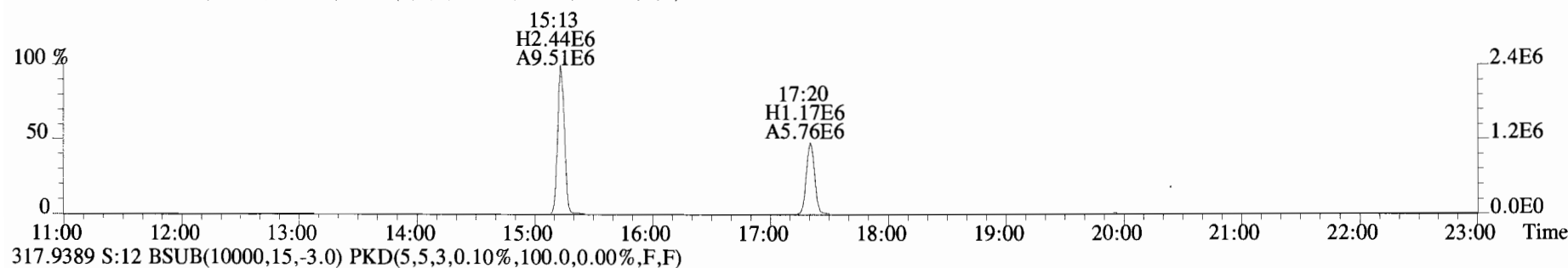
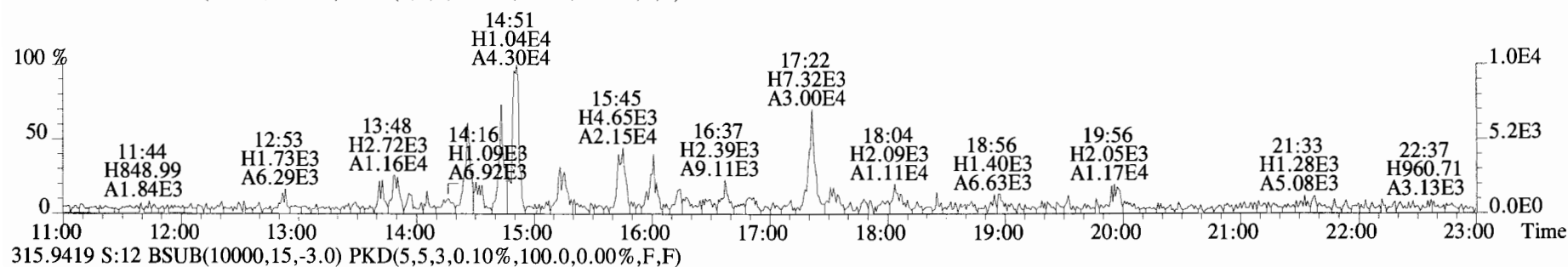
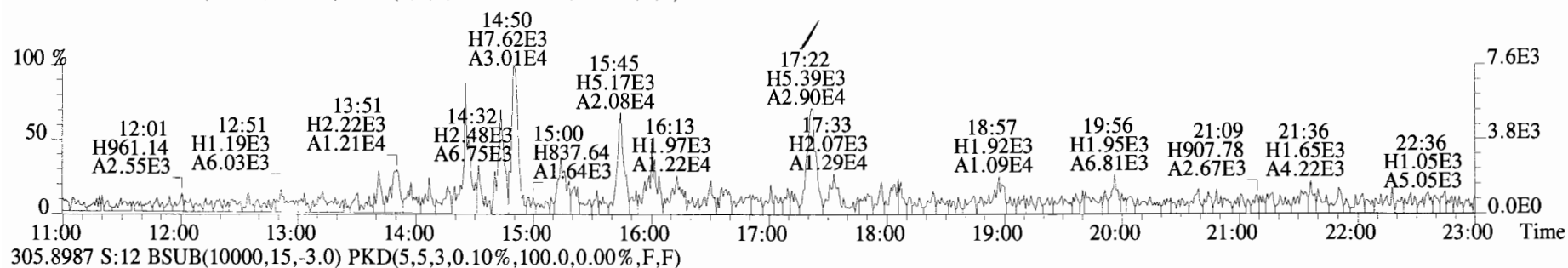
Integrations
by
Analyst: DB

Date: 7/20/19

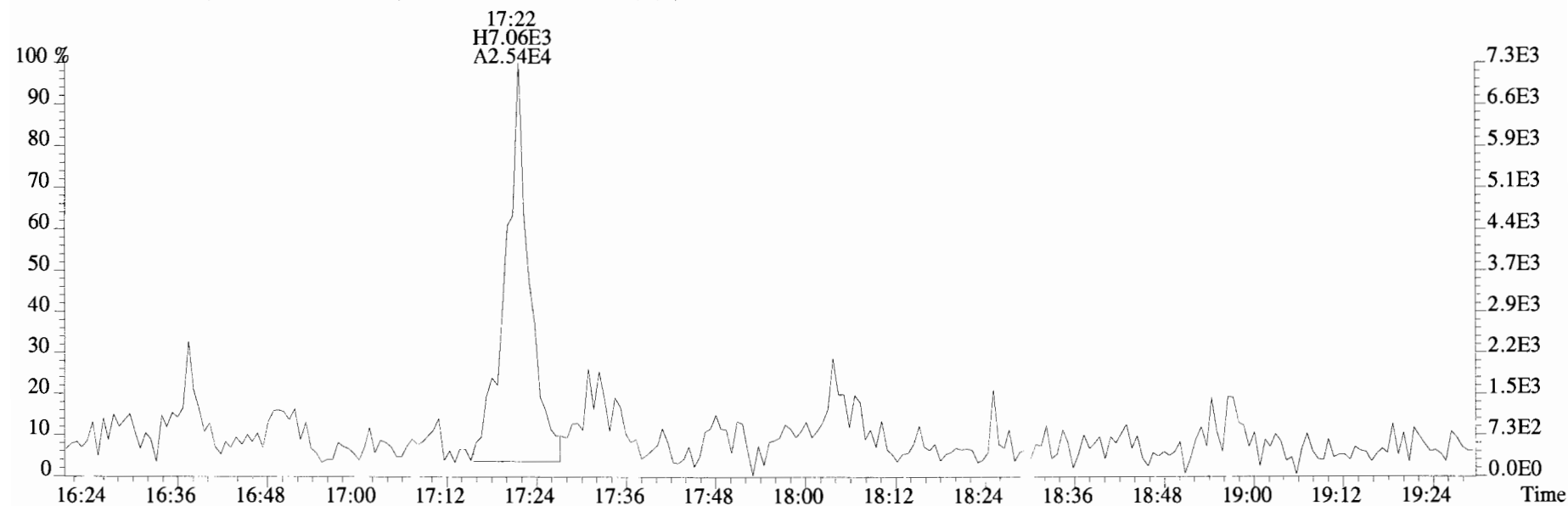
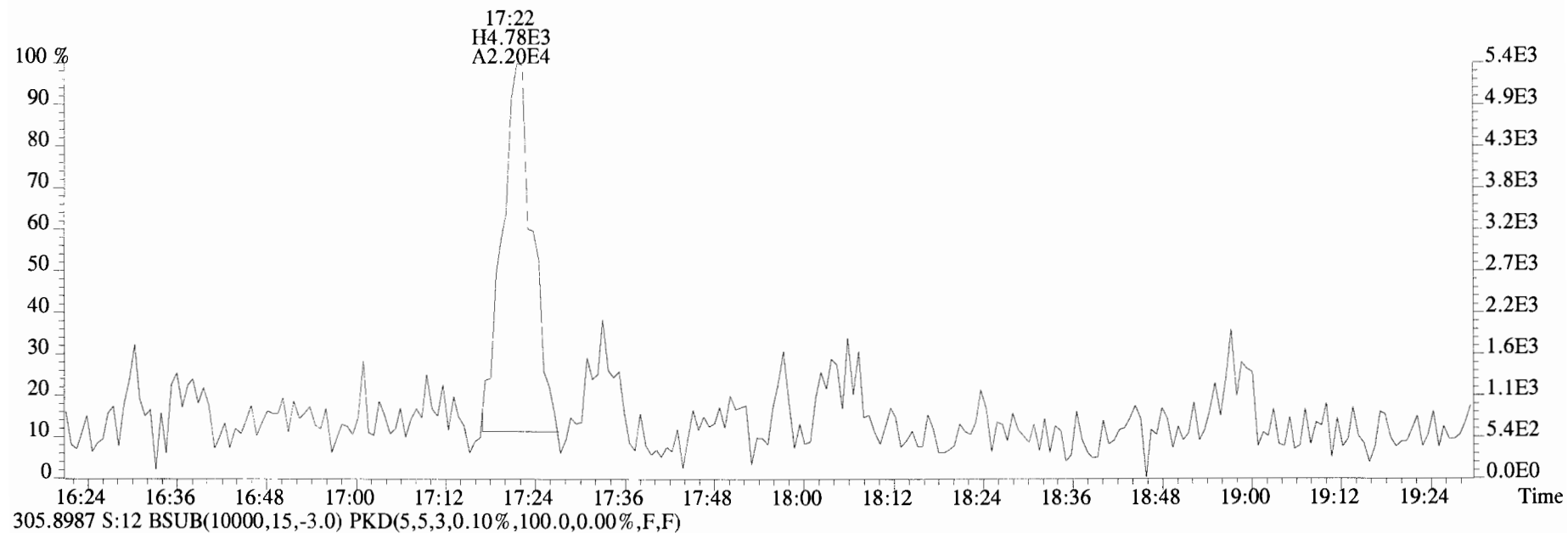
Reviewed
by
Analyst: CT

Date: 08/08/19

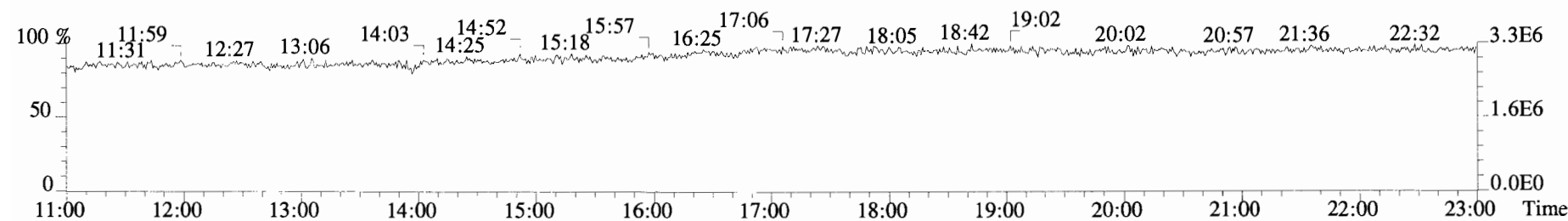
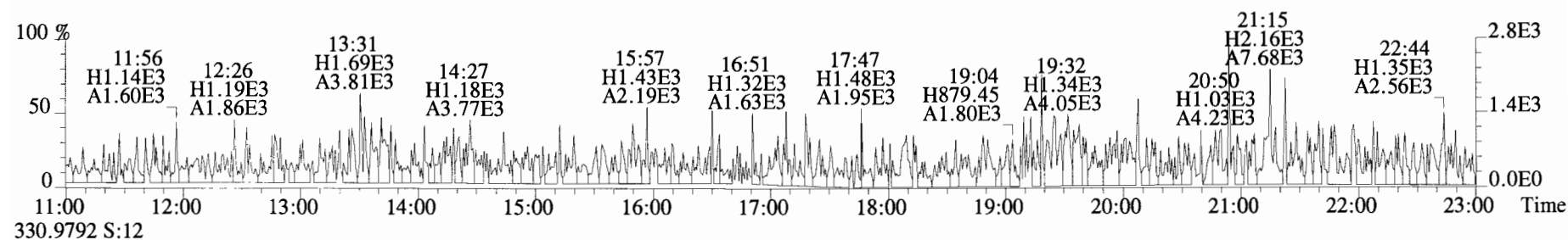
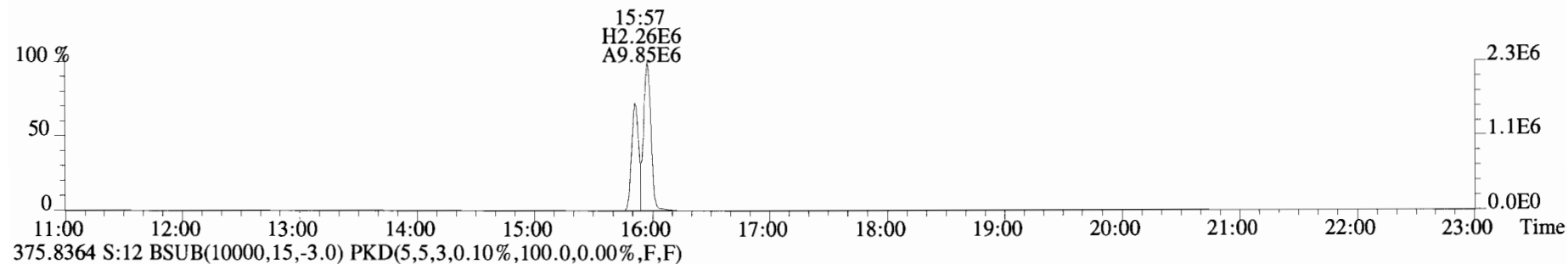
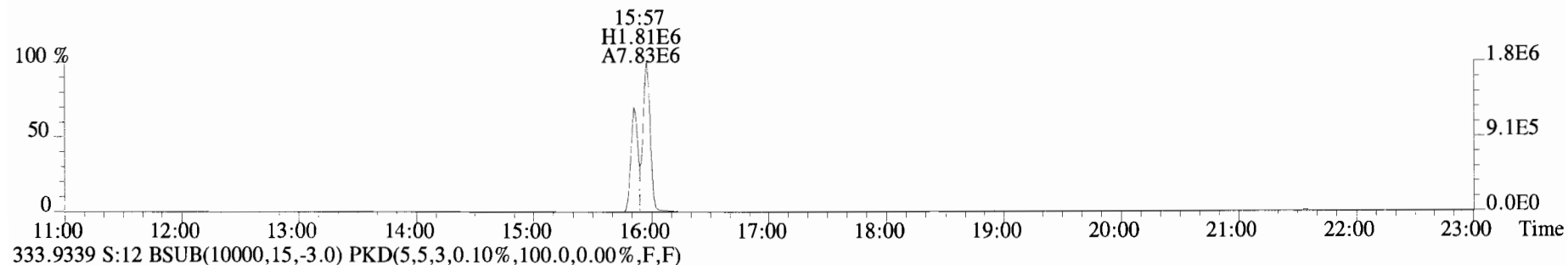
File:190719D1 #1-1683 Acq:19-JUL-2019 22:54:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-01RE1 T4-PDI2019-SC12-190521-01-03 9 Exp:TCDF_DB225
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190719D1 #1-1683 Acq:19-JUL-2019 22:54:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-01RE1 T4-PDI2019-SC12-190521-01-03 9 Exp:TCDF_DB225
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190719D1 #1-1683 Acq:19-JUL-2019 22:54:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Vista Analytical Laboratory VG7 Text:1901246-01RE1 T4-PDI2019-SC12-190521-01-03 9 Exp:TCDF_DB225
331.9368 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC12-1905217 Filename: 190719D1 S:13 Acq:19-JUL-19 23:26:07 ConCal: ST190719D1-1
Lab ID: 1901246-02RE1 GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 5.031 EndCAL: NA

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Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	2.28e+07	0.82 y	15:13	1.00	397.5	-
13C-2,3,7,8-TCDF	1.28e+07	0.79 y	17:19	1.02	219.5	55.2
2,3,7,8-TCDF	8.42e+04	0.69 y	17:20	0.95	2.750	

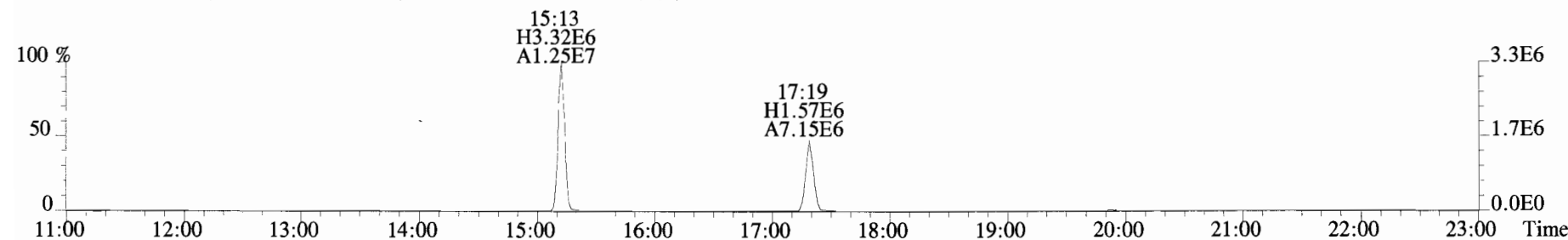
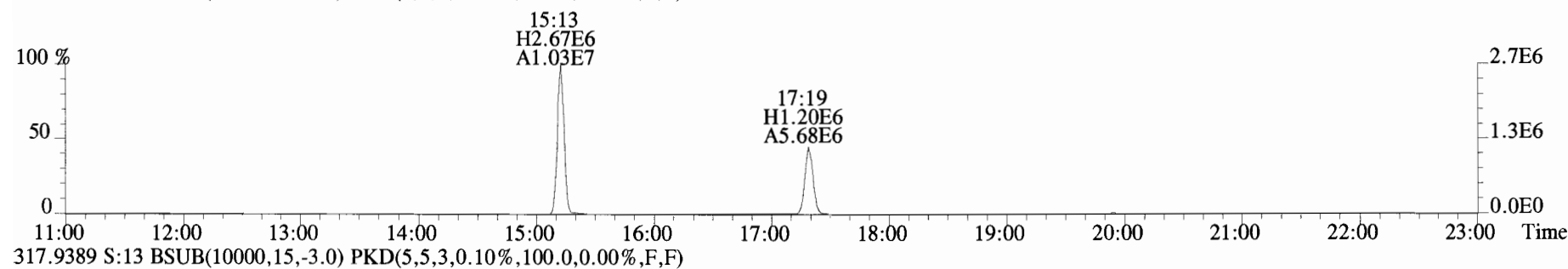
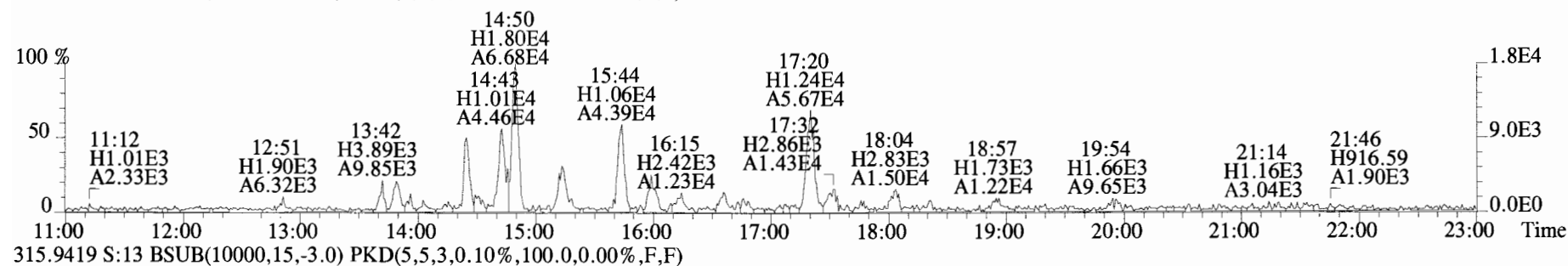
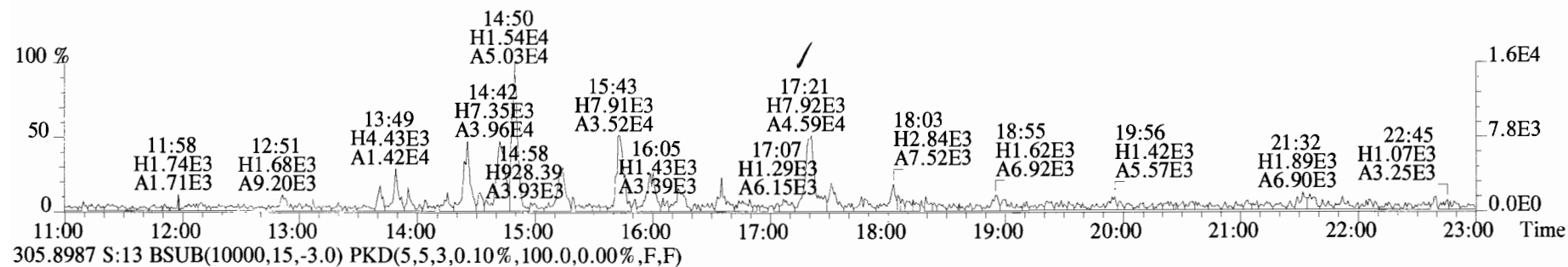
Integrations
by
Analyst: DB

Date: 7/20/19

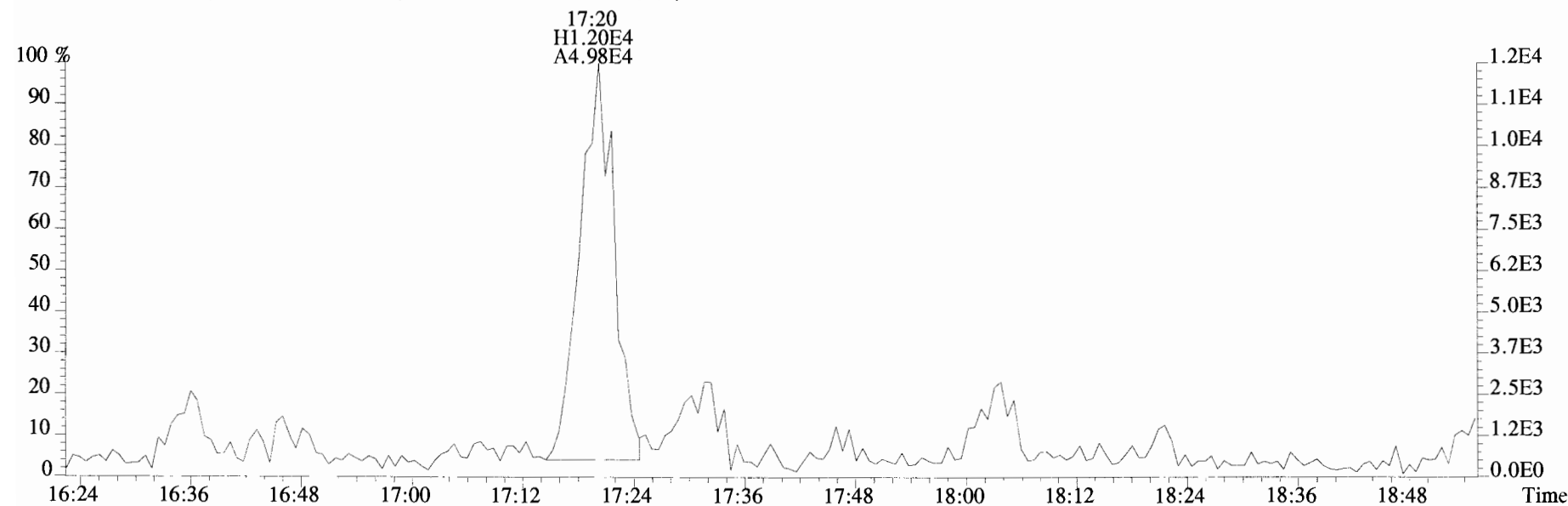
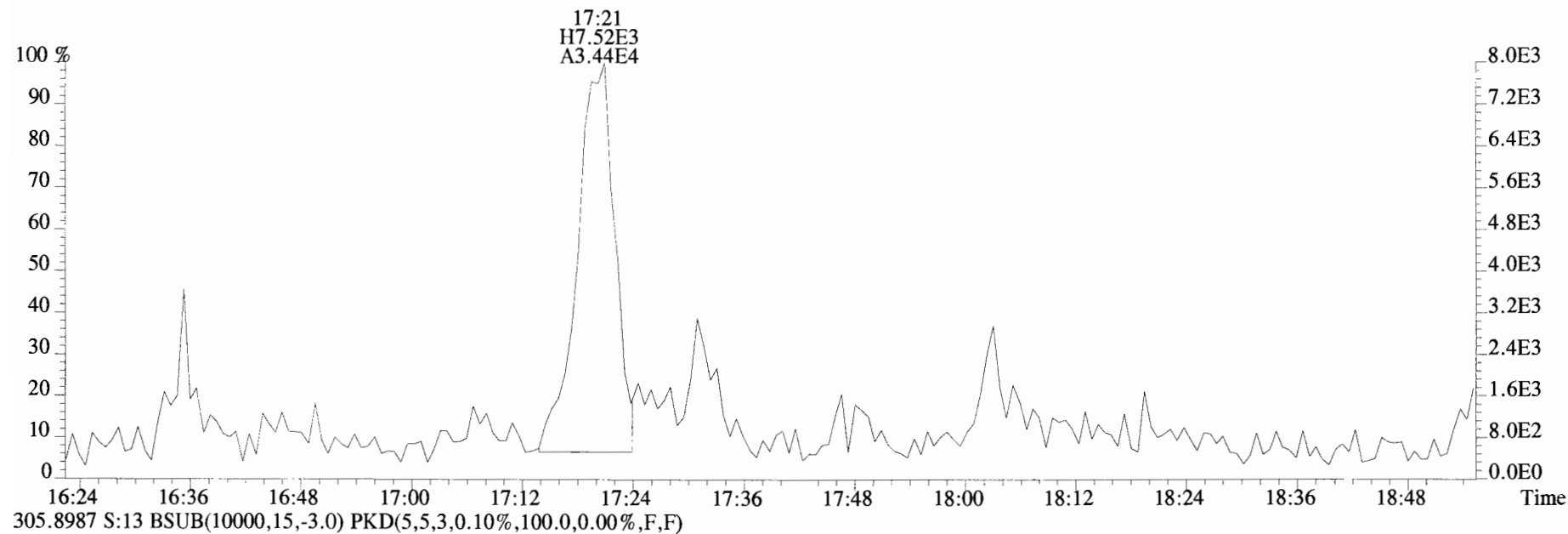
Reviewed
by
Analyst: CT

Date: 08/08/19

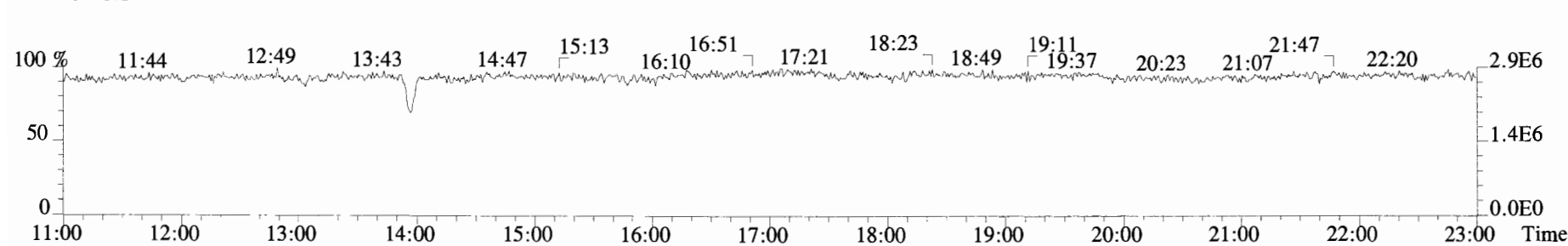
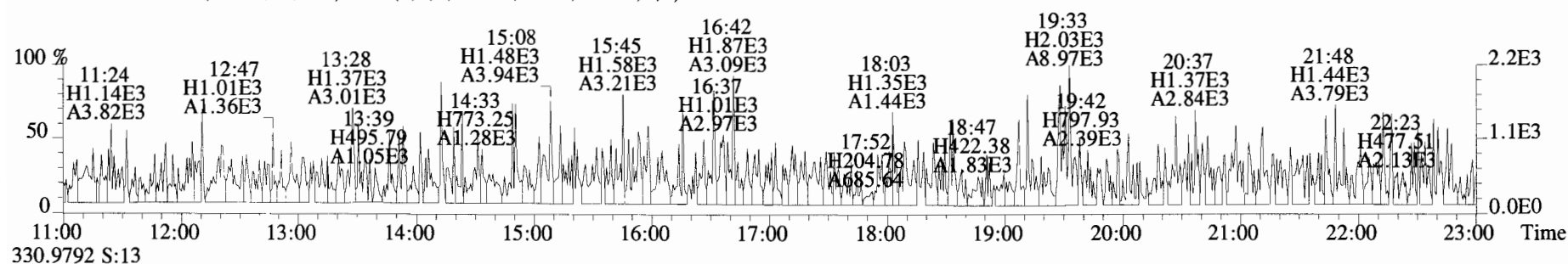
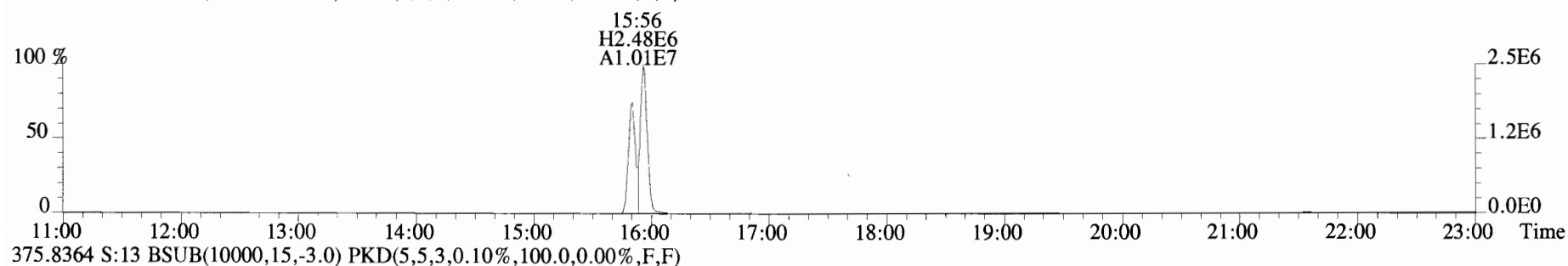
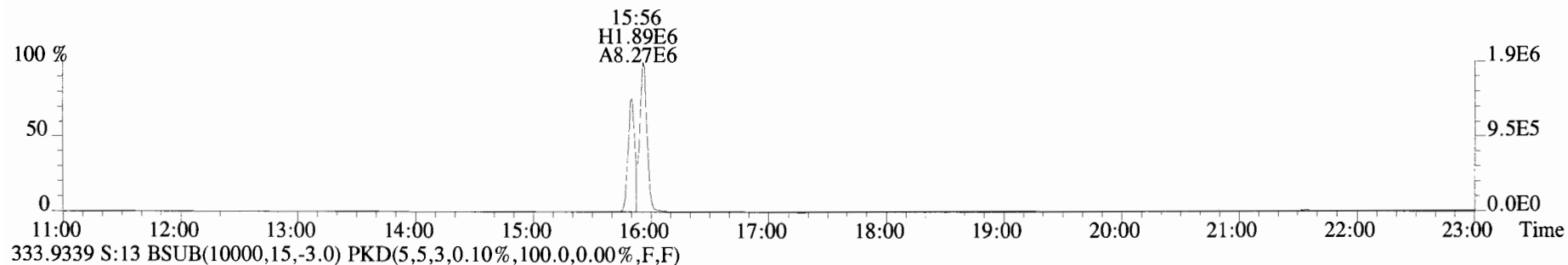
File:190719D1 #1-1683 Acq:19-JUL-2019 23:26:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-02RE1 T4-PDI2019-SC12-190521-03-05 8.21 Exp:TCDF_DB225
303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190719D1 #1-1683 Acq:19-JUL-2019 23:26:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-02RE1 T4-PDI2019-SC12-190521-03-05 8.21 Exp:TCDF_DB225
303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190719D1 #1-1683 Acq:19-JUL-2019 23:26:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Vista Analytical Laboratory VG7 Text:1901246-02RE1 T4-PDI2019-SC12-190521-03-05 8.21 Exp:TCDF_DB225
331.9368 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC12-1905217 Filename: 190719D1 S:14 Acq:19-JUL-19 23:57:57 ✓ ConCal: ST190719D1-1
Lab ID: 1901246-03RE1 GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 5.020 EndCAL: NA

Page 12 of 12

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	2.13e+07	0.80 y	15:12	1.00	398.4	-
13C-2,3,7,8-TCDF	1.50e+07	0.80 y	17:19	1.02	274.9	69.0
2,3,7,8-TCDF	1.02e+05	0.82 y	17:19	0.95	2.861	

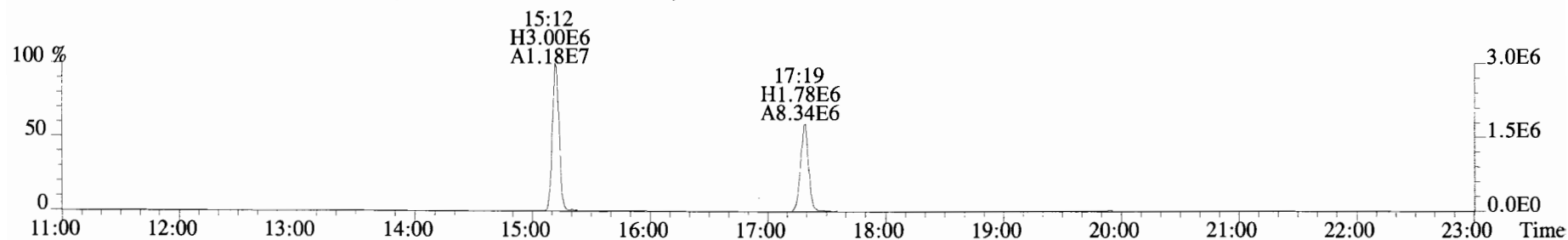
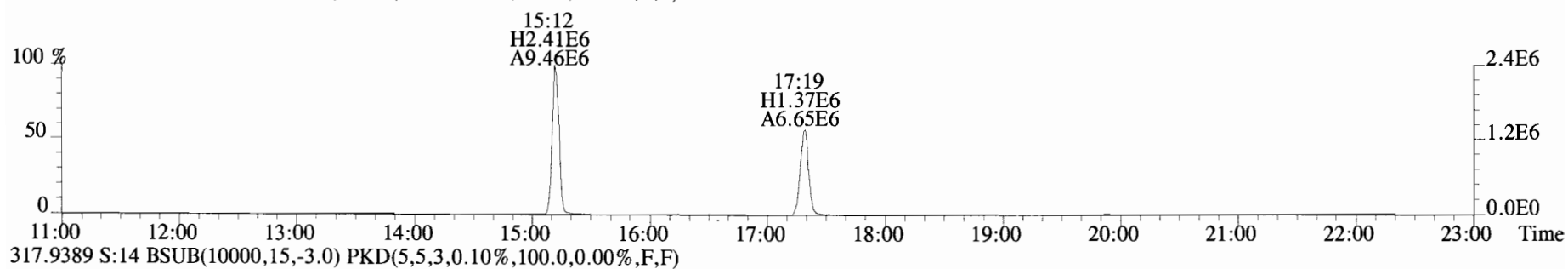
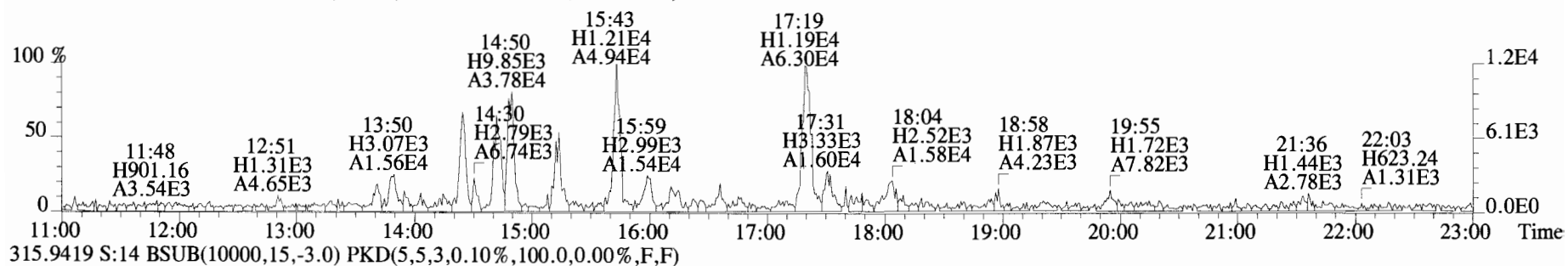
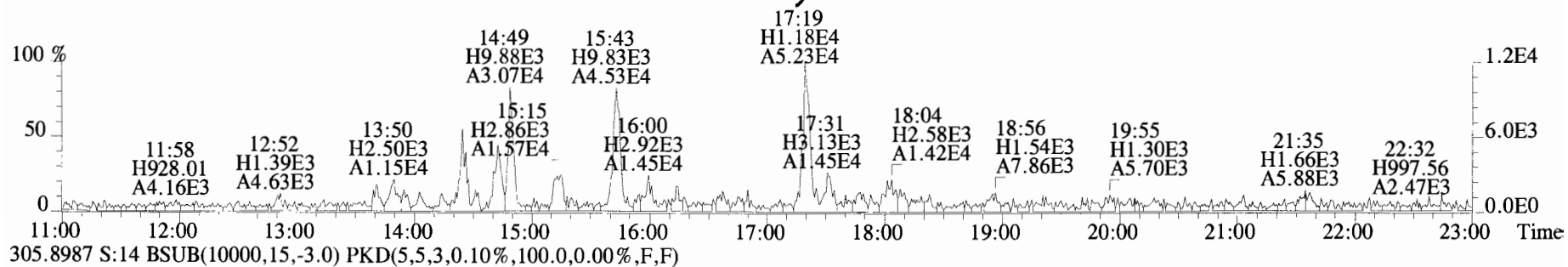
Integrations
by
Analyst: DB

Date: 7/20/19

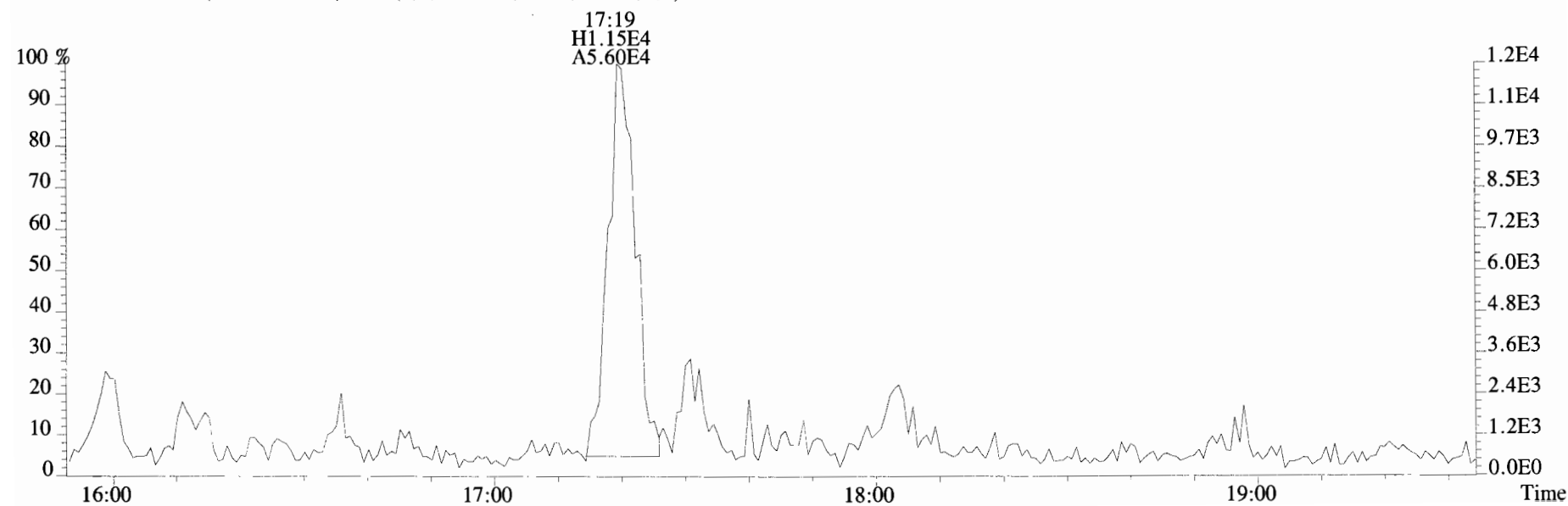
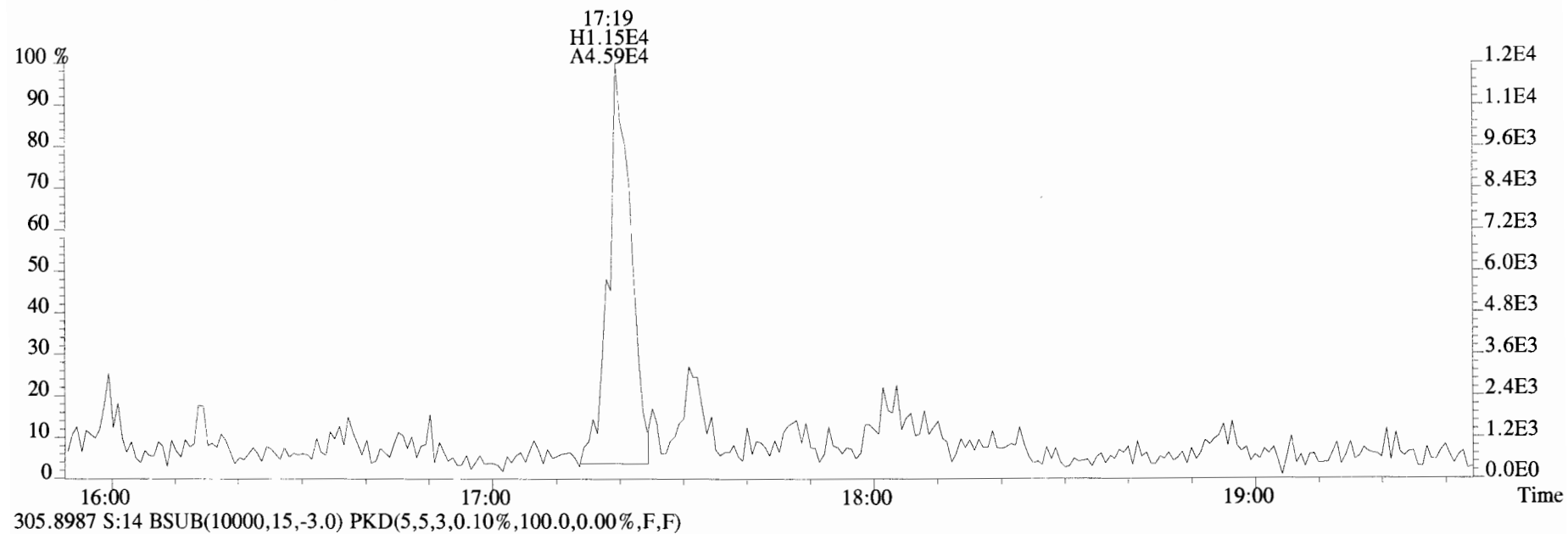
Reviewed
by
Analyst: CT

Date: 02/02/19

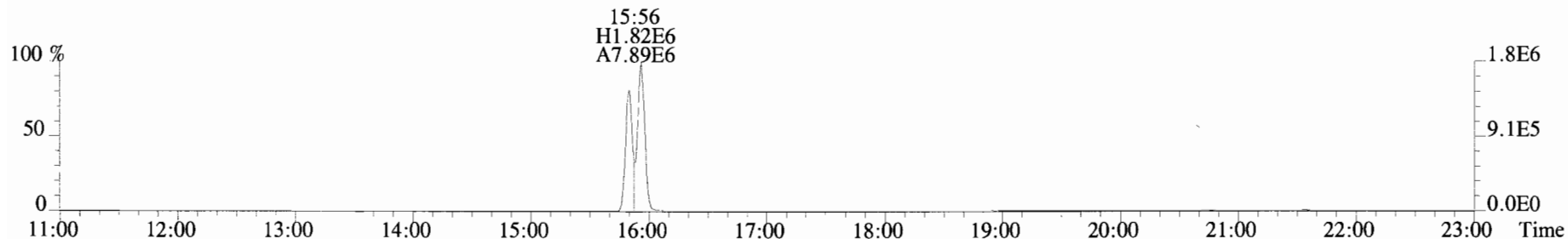
File:190719D1 #1-1683 Acq:19-JUL-2019 23:57:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-03RE1 T4-PDI2019-SC12-190521-05-07 6.89 Exp:TCDF_DB225
 303.9016 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



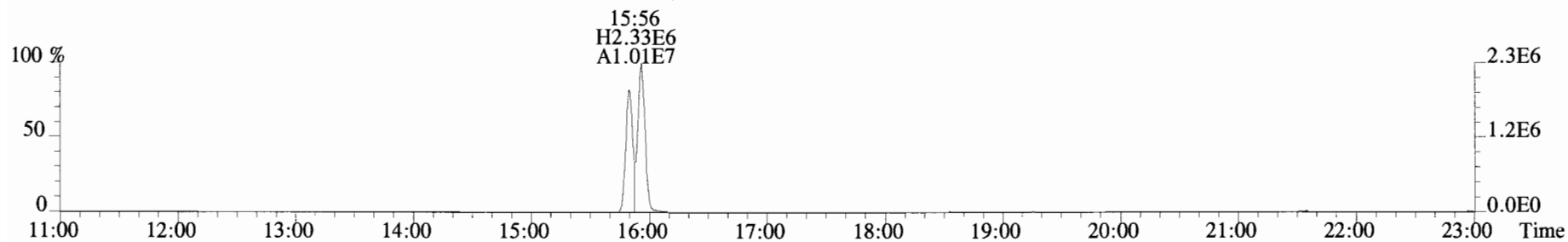
File:190719D1 #1-1683 Acq:19-JUL-2019 23:57:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-03RE1 T4-PDI2019-SC12-190521-05-07 6.89 Exp:TCDF_DB225
303.9016 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



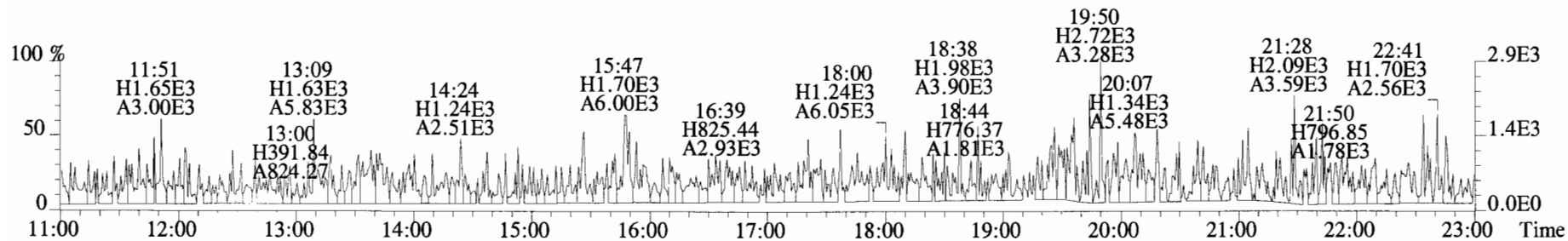
File:190719D1 #1-1683 Acq:19-JUL-2019 23:57:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Vista Analytical Laboratory VG7 Text:1901246-03RE1 T4-PDI2019-SC12-190521-05-07 6.89 Exp:TCDF_DB225
331.9368 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



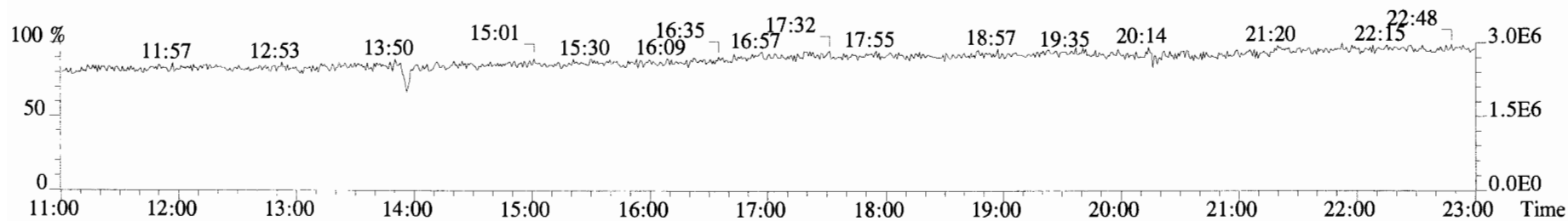
333.9339 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



375.8364 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



330.9792 S:14



Client ID: T4-PDI2019-SC13-190521 Filename: 190719D1 S:15 Acq:20-JUL-19 00:29:46

✓ ConCal: ST190719D1-1

Page 13 of 13

Lab ID: 1901246-07RE1

GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 5.000 EndCAL: NA

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	2.18e+07	0.81 y	15:12	1.00	400.0	-
13C-2,3,7,8-TCDF	8.58e+06	0.79 y	17:19	1.02	154.0	38.5
2,3,7,8-TCDF	6.59e+04	0.88 y	17:20	0.95	3.244	

Integrations

by
Analyst: DB

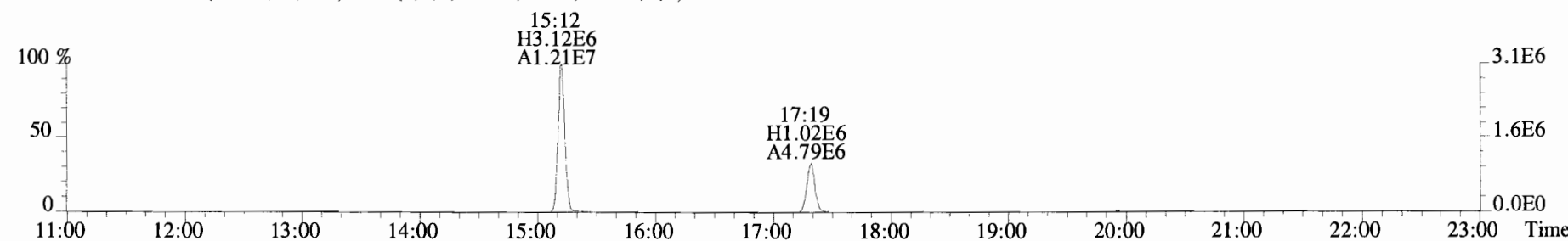
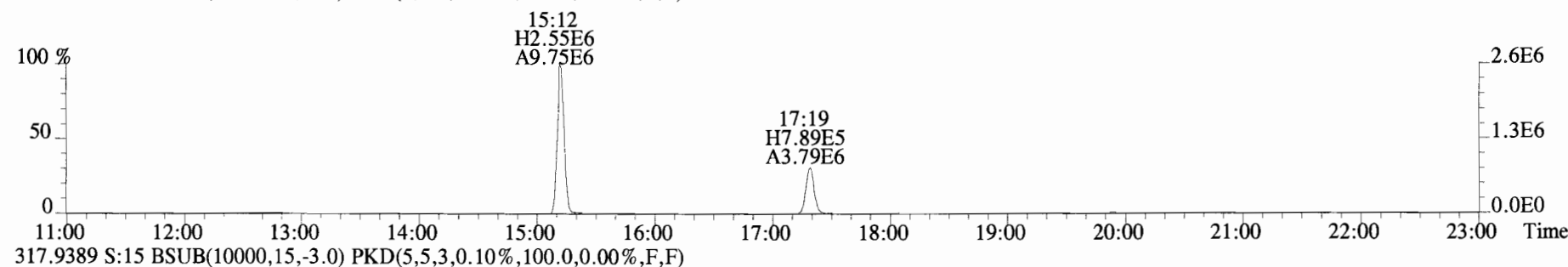
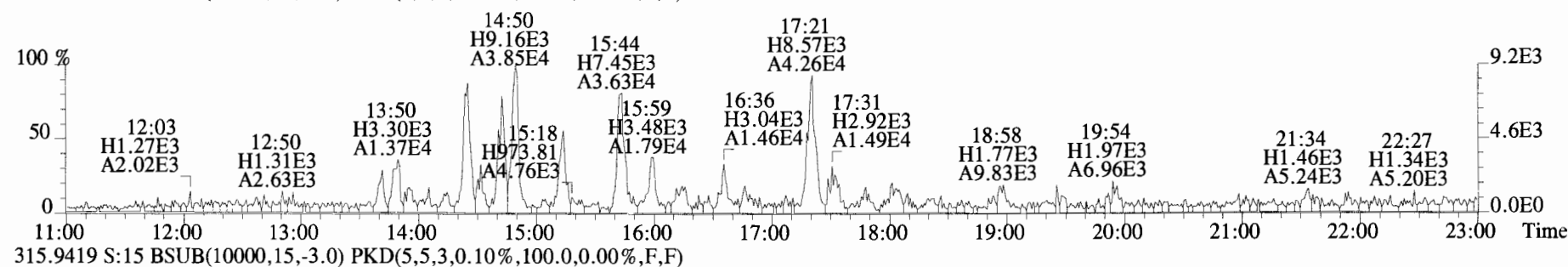
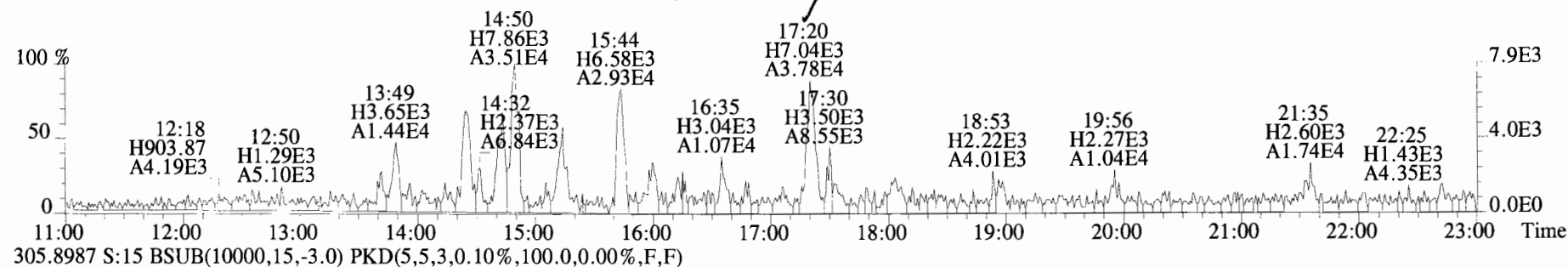
Date: 7/20/19

Reviewed

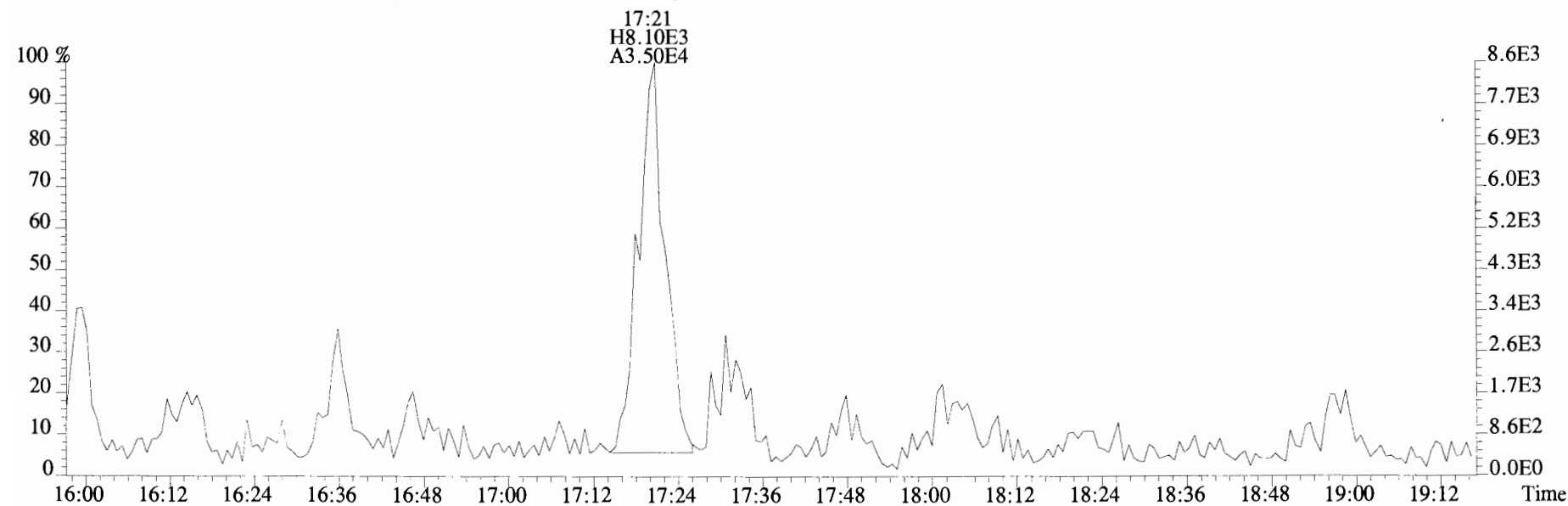
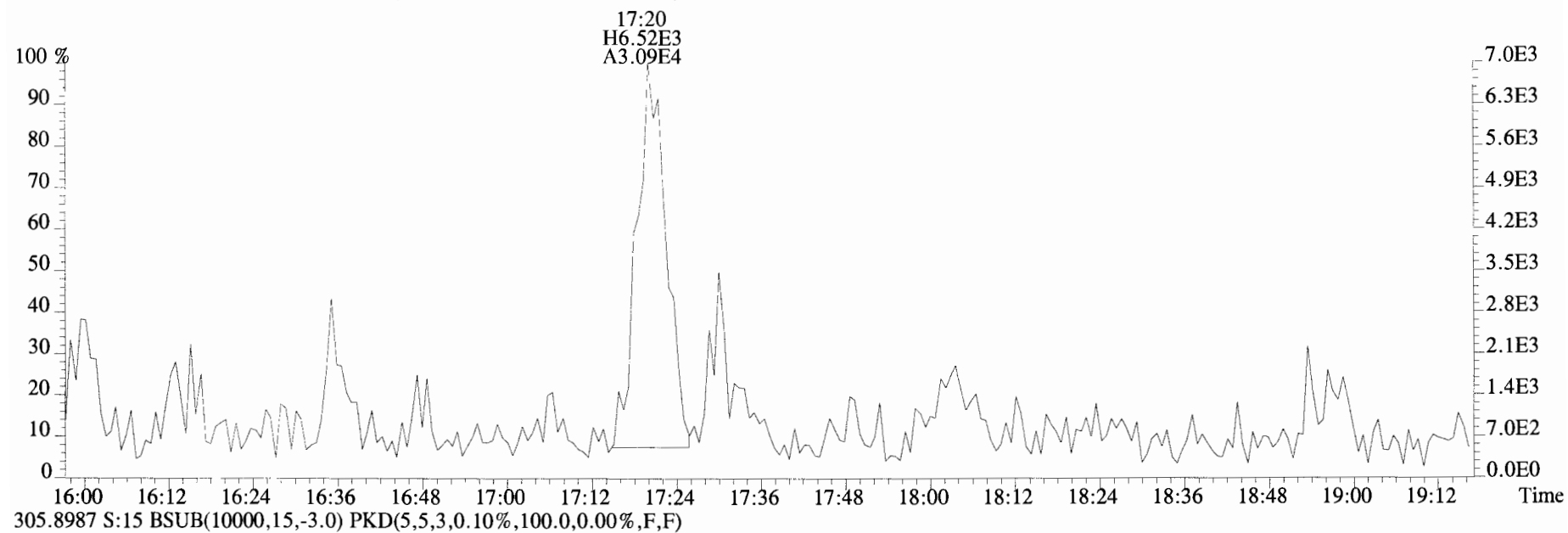
by
Analyst: CT

Date: 08/08/19

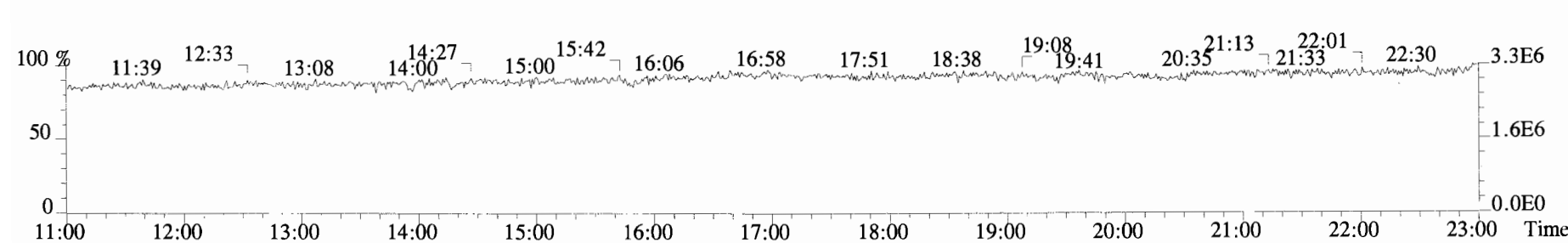
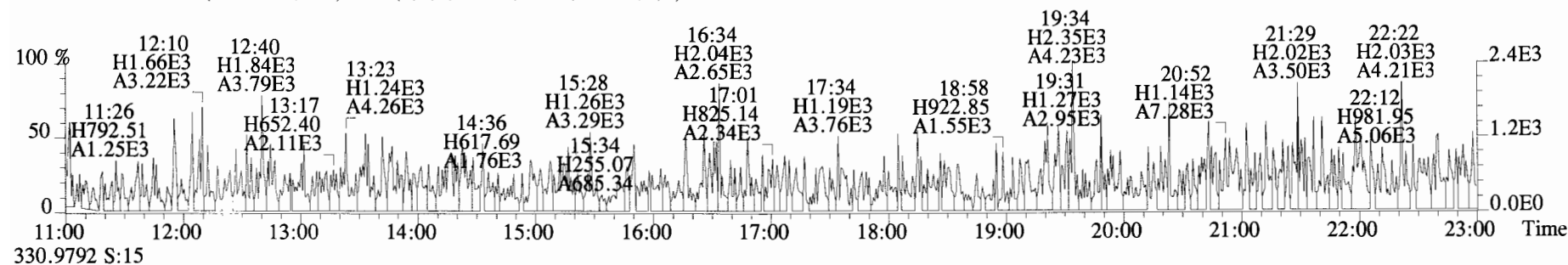
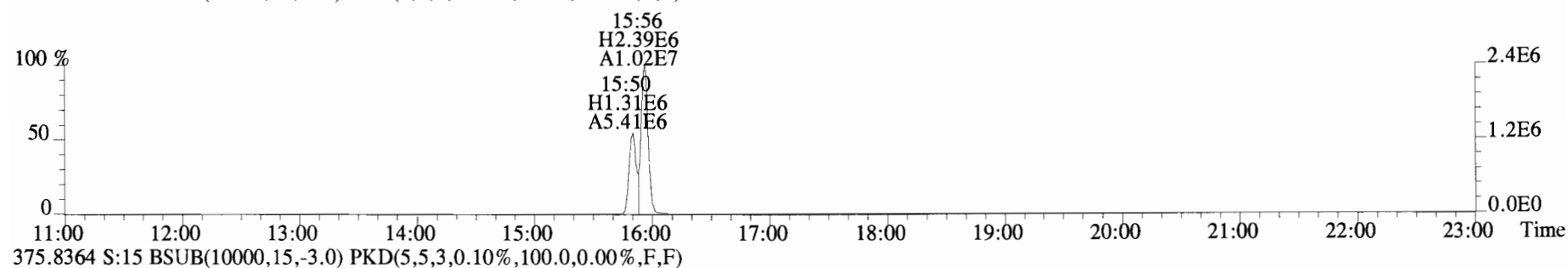
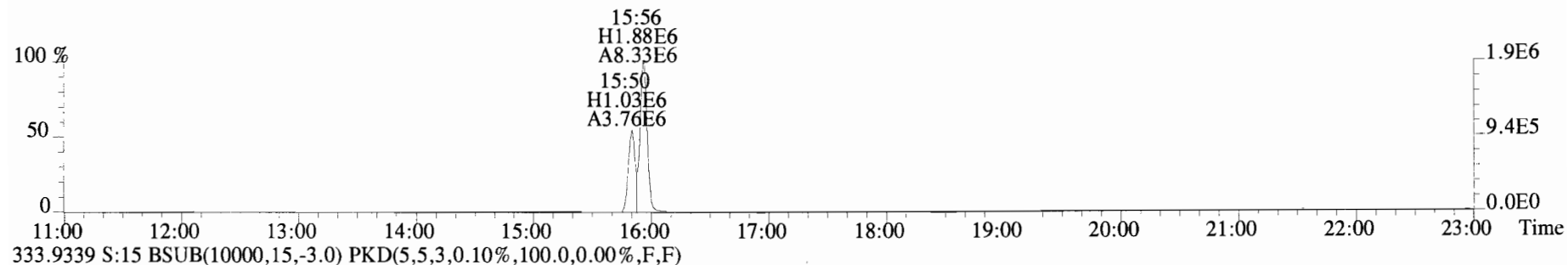
File:190719D1 #1-1683 Acq:20-JUL-2019 00:29:46 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#15 File Text:Vista Analytical Laboratory VG7 Text:1901246-07RE1 T4-PDI2019-SC13-190521-03-05 6.88 Exp:TCDF_DB225
 303.9016 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190719D1 #1-1683 Acq:20-JUL-2019 00:29:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Vista Analytical Laboratory_VG7 Text:1901246-07RE1 T4-PDI2019-SC13-190521-03-05 6.88 Exp:TCDF_DB225
303.9016 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190719D1 #1-1683 Acq:20-JUL-2019 00:29:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Vista Analytical Laboratory_VG7 Text:1901246-07RE1 T4-PDI2019-SC13-190521-03-05 6.88 Exp:TCDF_DB225
331.9368 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



CONTINUING CALIBRATION

HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST190626DZ-1

Reviewed By: CT 06/28/19
Initials & Date

End Calibration ID: NA

	Beg.	End
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Concentrations within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TCDD/TCDF Valleys <25%	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<u>DB</u>	<u>DB</u>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<u>(Y)</u>	<u>N</u>
- Bottle position verified?	<u>DB</u>	<u>DB</u>

Mass resolution \geq

☐ 5k ☐ 6-8K ☐ 8K ☒ 10K
1614 1699 429 1613/1668/8280

Intergrated peaks display correctly?

GC Break <20%

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1
within 12 hours

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190626D2-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190626D2 S#1 Analysis Date: 27-JUN-19 Time: 04:40:31

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	y	11.3	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	55.0	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	53.4	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	y	53.1	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	y	52.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	y	47.9	43.0 - 58.0
OCDD	M+2/M+4	0.88	0.76-1.02	y	98.9	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	y	9.65	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	55.2	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	y	57.4	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	51.4	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	52.1	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	51.3	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	51.8	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88-1.20	y	52.9	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	y	51.8	43.0 - 58.0
OCDF	M+2/M+4	0.91	0.76-1.02	y	100	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 6/27/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190626D2 S#1 Analysis Date: 27-JUN-19 Time: 04:40:31

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	88.0	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	100	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	100	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	y	102	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	111	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	y	203	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.80	0.65-0.89	y	108	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	92.4	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.65	1.32-1.78	y	87.3	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	y	99.0	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	101	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	104	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	y	104	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	104	77.0 - 129.0
13C-OCDF	M+2/M+4	0.87	0.76-1.02	y	190	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.37	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 6/27/19

FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 5-10-19

RT Window Data Filename: 190626D2 S#1 Analysis Date: 27-JUN-19 Time: 04:40:31

ZB-5MS IS Data Filename: 190626D2 S#1 Analysis Date: 27-JUN-19 Time: 04:40:31

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:41	1,3,6,8-TCDF (F)	20:34
1,2,8,9-TCDD (L)	26:54	1,2,8,9-TCDF (L)	27:04
1,2,4,7,9-PeCDD (F)	28:29	1,3,4,6,8-PeCDF (F)	26:59
1,2,3,8,9-PeCDD (L)	30:53	1,2,3,8,9-PeCDF (L)	31:08
1,2,4,6,7,9-HxCDD (F)	32:16	1,2,3,4,6,8-HxCDF (F)	31:44
1,2,3,7,8,9-HxCDD (L)	34:13	1,2,3,7,8,9-HxCDF (L)	34:37
1,2,3,4,6,7,9-HpCDD (F)	36:49	1,2,3,4,6,7,8-HpCDF (F)	36:26
1,2,3,4,6,7,8-HpCDD (L)	37:40	1,2,3,4,7,8,9-HpCDF (L)	38:14

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DBDate: 6/27/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190626D2 S#1 Analysis Date: 27-JUN-19 Time: 04:40:31

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.199	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.994	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.153	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.189	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.024	0.989-1.052

Analyst: DB

Date: 6/27/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190626D2 S#1 Analysis Date: 27-JUN-19 Time: 04:40:31

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.147	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 6/27/19

Client ID: 1613 CS3 19C2204
Lab ID: ST190626D2-1

Filename: 190626D2 S:1 Acq:27-JUN-19 04:40:31
GC Column ID: ZB-SMS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190626D2-1
EndCAL: NA

Page 1 of 1

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	1.33e+06	0.80 y	0.90	26:03	11.280		* 2.5		*
1,2,3,7,8-PeCDD	4.80e+06	0.62 y	0.87	30:31	54.973		* 2.5		*
1,2,3,4,7,8-HxCDD	4.93e+06	1.27 y	1.05	33:48	53.381		* 2.5		*
1,2,3,6,7,8-HxCDD	5.40e+06	1.18 y	0.93	33:55	53.089		* 2.5		*
1,2,3,7,8,9-HxCDD	5.48e+06	1.21 y	0.96	34:13	52.928		* 2.5		*
1,2,3,4,6,7,8-HpCDD	4.68e+06	1.03 y	0.99	37:40	47.925		* 2.5		*
OCDD	8.03e+06	0.88 y	0.99	40:56	98.893		* 2.5		*
2,3,7,8-TCDF	1.79e+06	0.76 y	0.94	25:18	9.6515		* 2.5		*
1,2,3,7,8-PeCDF	7.77e+06	1.62 y	0.92	29:21	55.214		* 2.5		*
2,3,4,7,8-PeCDF	7.77e+06	1.56 y	0.96	30:15	57.375		* 2.5		*
1,2,3,4,7,8-HxCDF	6.52e+06	1.25 y	1.15	32:55	51.369		* 2.5		*
1,2,3,6,7,8-HxCDF	7.21e+06	1.22 y	1.04	33:03	52.073		* 2.5		*
2,3,4,6,7,8-HxCDF	7.08e+06	1.24 y	1.10	33:39	51.346		* 2.5		*
1,2,3,7,8,9-HxCDF	6.24e+06	1.22 y	1.03	34:37	51.826		* 2.5		*
1,2,3,4,6,7,8-HpCDF	6.12e+06	1.02 y	1.06	36:26	52.879		* 2.5		*
1,2,3,4,7,8,9-HpCDF	5.42e+06	1.03 y	1.23	38:14	51.843		* 2.5		*
OCDF	9.08e+06	0.91 y	0.94	41:10	100.23		* 2.5		*

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	79.0	79.4		*	*
Total Penta-Dioxins	205	205		*	*
Total Hexa-Dioxins	231	232		*	*
Total Hepta-Dioxins	110	111		*	*
Total Tetra-Furans	34.0	34.7		*	*
Total Penta-Furans	247.76	247.80		*	*
Total Hexa-Furans	275	275		*	*
Total Hepta-Furans	106	107		*	*

IS	13C-2,3,7,8-TCDD	1.30e+07	0.79 y	1.11	26:02	101.07
IS	13C-1,2,3,7,8-PeCDD	1.00e+07	0.64 y	0.98	30:30	88.009
IS	13C-1,2,3,4,7,8-HxCDD	8.80e+06	1.28 y	0.68	33:47	100.49
IS	13C-1,2,3,6,7,8-HxCDD	1.09e+07	1.26 y	0.84	33:54	100.29
IS	13C-1,2,3,7,8,9-HxCDD	1.08e+07	1.23 y	0.81	34:12	102.16
IS	13C-1,2,3,4,6,7,8-HpCDD	9.87e+06	1.05 y	0.69	37:39	110.99
IS	13C-OCDD	1.65e+07	0.91 y	0.62	40:55	203.34
IS	13C-2,3,7,8-TCDF	1.97e+07	0.80 y	1.05	25:17	107.95
IS	13C-1,2,3,7,8-PeCDF	1.53e+07	1.60 y	0.95	29:21	92.357
IS	13C-2,3,4,7,8-PeCDF	1.41e+07	1.65 y	0.94	30:14	87.306
IS	13C-1,2,3,4,7,8-HxCDF	1.10e+07	0.50 y	0.86	32:54	98.973
IS	13C-1,2,3,6,7,8-HxCDF	1.33e+07	0.51 y	1.02	33:02	100.64
IS	13C-2,3,4,6,7,8-HxCDF	1.26e+07	0.51 y	0.95	33:38	101.90
IS	13C-1,2,3,7,8,9-HxCDF	1.17e+07	0.51 y	0.87	34:37	103.84
IS	13C-1,2,3,4,6,7,8-HpCDF	1.09e+07	0.44 y	0.81	36:25	103.70
IS	13C-1,2,3,4,7,8,9-HpCDF	8.53e+06	0.44 y	0.63	38:13	104.07
IS	13C-OCDF	1.93e+07	0.87 y	0.78	41:09	189.95

Rec Qual

101
88.0
100
100
102
111
102
108
92.4
87.3
99.0
101
102
104
104
104
95.0

C/Up	37Cl-2,3,7,8-TCDD	1.33e+06		1.22	26:03	9.3718
RS/RT	13C-1,2,3,4-TCDD	1.17e+07	0.79 y	1.00	25:27	100.00
RS	13C-1,2,3,4-TCDF	1.73e+07	0.82 y	1.00	24:02	100.00
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.30e+07	0.51 y	1.00	33:19	100.00

Integrations
by DB
Analyst: DB

Reviewed
by CT
Analyst: CT

Date: 6/27/19

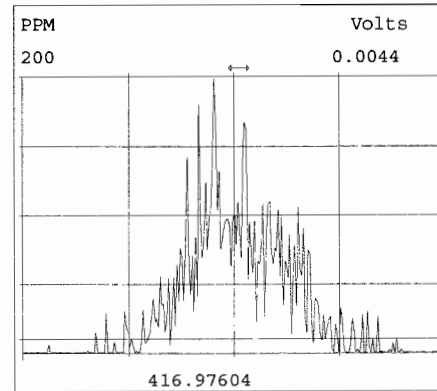
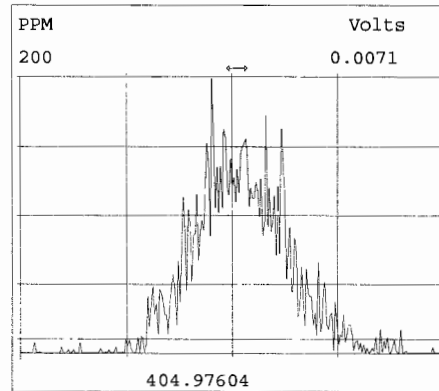
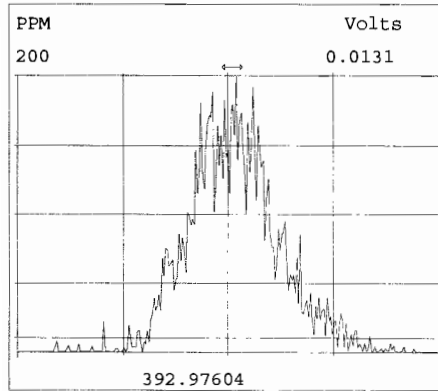
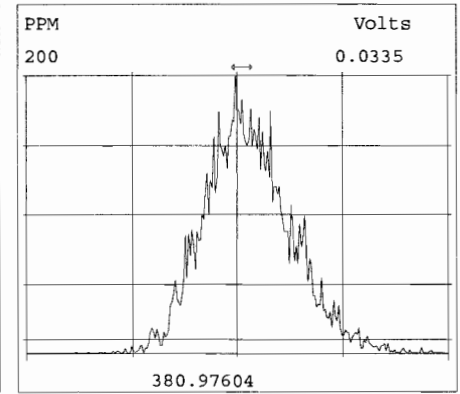
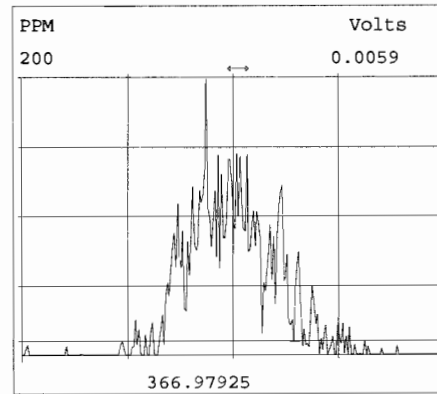
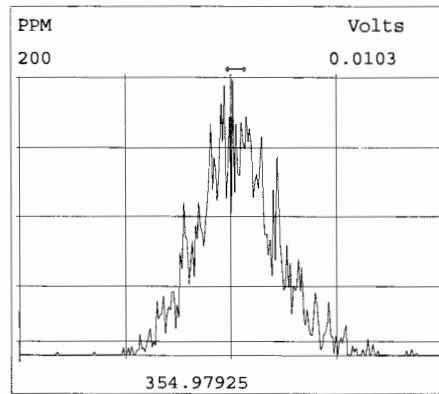
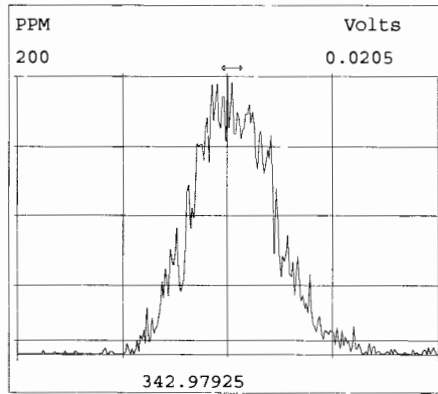
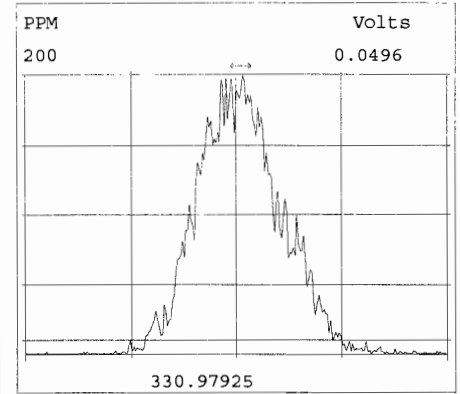
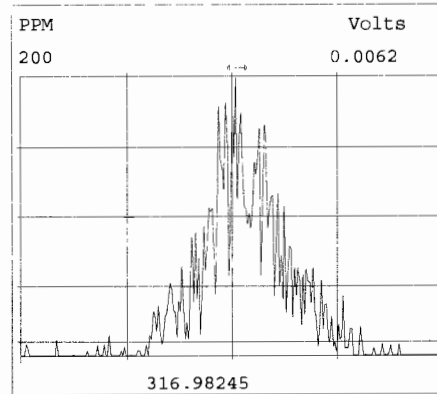
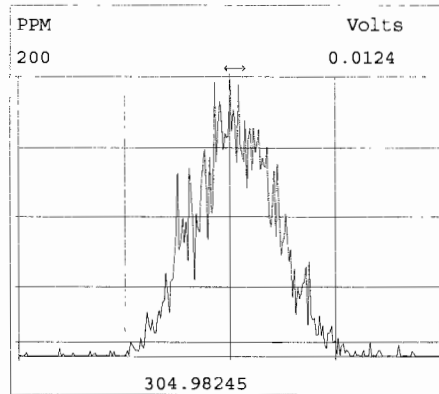
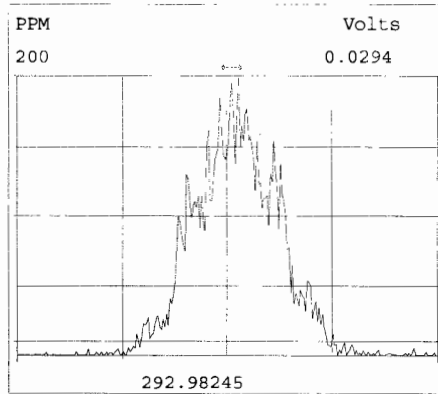
Date: 06/28/19

Vista Analytical Laboratory - Injection Log Run file: 190626D2 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190626D2	1	ST190626D2-1	DB	27-JUN-19	04:40:31	ST190626D2-1	NA
190626D2	2	B9F0201-BS1	DB	27-JUN-19	05:28:03	ST190626D2-1	NA
190626D2	3	SOLVENT BLANK	DB	27-JUN-19	06:15:39	ST190626D2-1	NA
190626D2	4	B9F0201-BLK1	DB	27-JUN-19	07:03:26	ST190626D2-1	NA
190626D2	5	1901247-03	DB	27-JUN-19	07:51:09	ST190626D2-1	NA
190626D2	6	1901247-04	DB	27-JUN-19	08:38:57	ST190626D2-1	NA
190626D2	7	1901247-06	DB	27-JUN-19	09:26:40	ST190626D2-1	NA
190626D2	8	1901247-07	DB	27-JUN-19	10:14:26	ST190626D2-1	NA
190626D2	9	1901247-09	DB	27-JUN-19	11:02:15	ST190626D2-1	NA
190626D2	10	1901247-10	DB	27-JUN-19	11:50:03	ST190626D2-1	NA
190626D2	11	1901246-01	DB	27-JUN-19	12:37:50	ST190626D2-1	NA
190626D2	12	1901246-02	DB	27-JUN-19	13:25:33	ST190626D2-1	NA
190626D2	13	1901246-03	DB	27-JUN-19	14:13:13	ST190626D2-1	NA
190626D2	14	1901246-04	DB	27-JUN-19	15:01:00	ST190626D2-1	NA
190626D2	15	1901246-05	DB	27-JUN-19	15:48:43	ST190626D2-1	NA

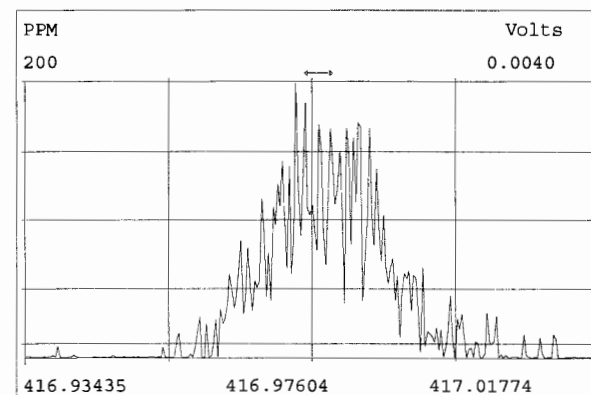
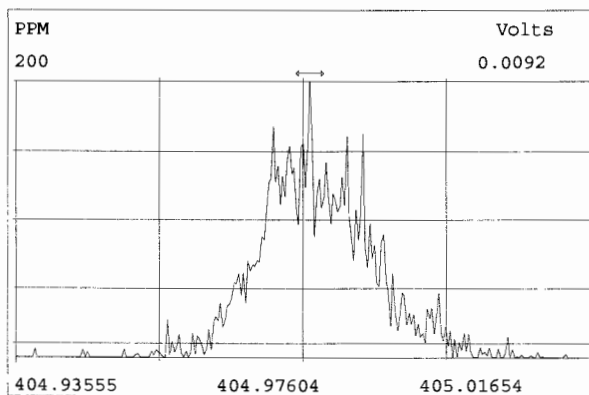
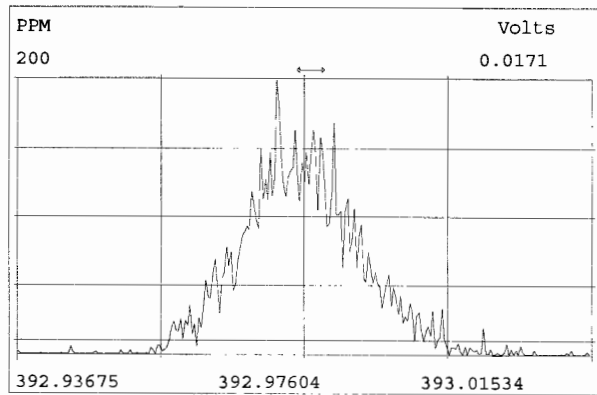
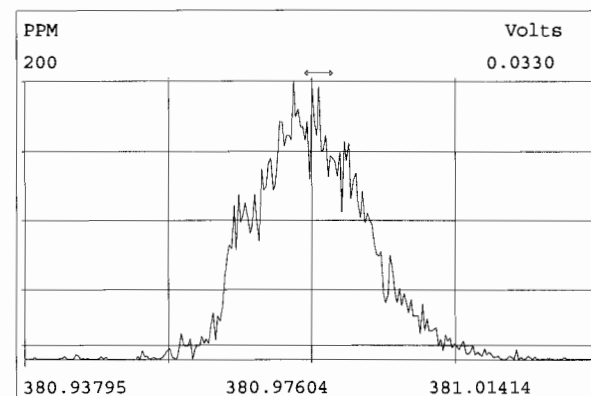
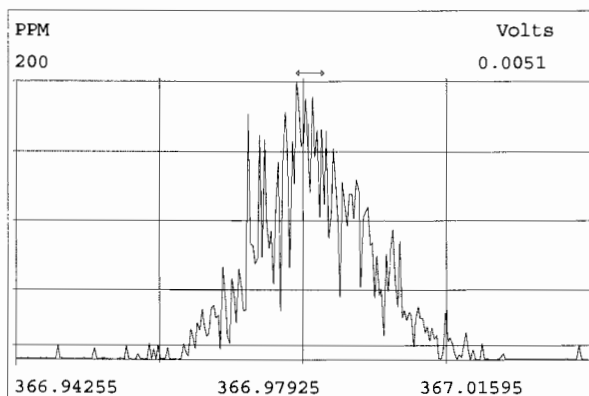
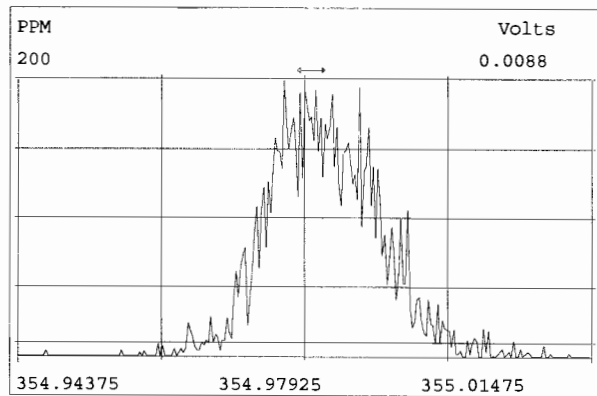
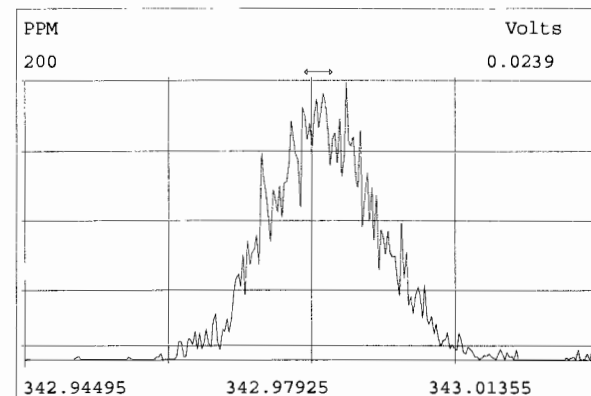
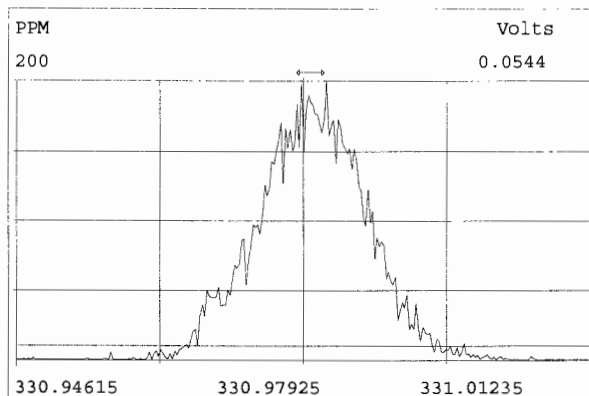
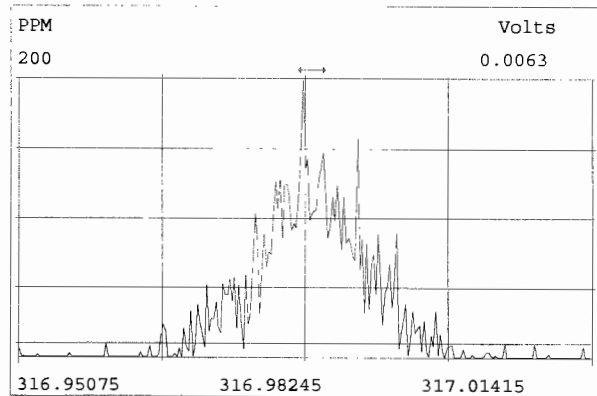
Peak Locate Examination:27-JUN-2019:04:35 File:RES_CHECK

Experiment:OCDD_DB5 Function:1 Reference:PFK



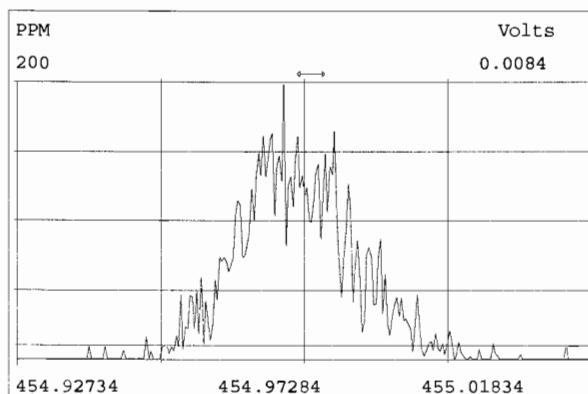
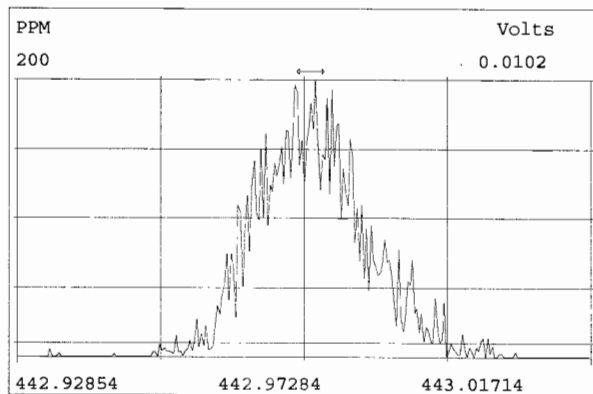
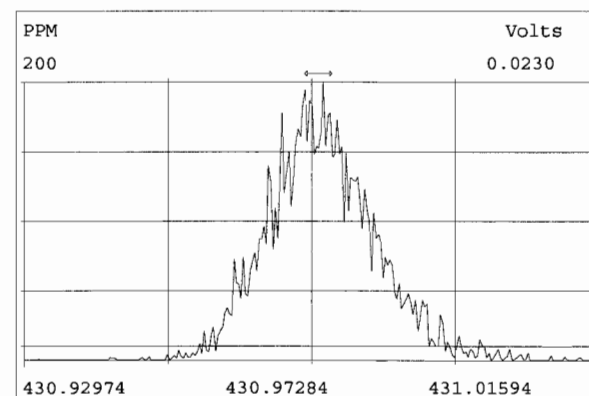
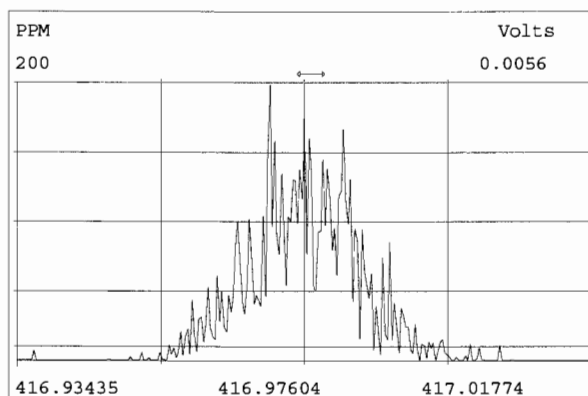
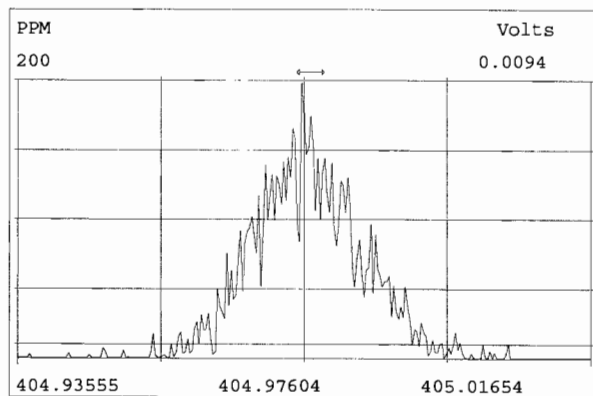
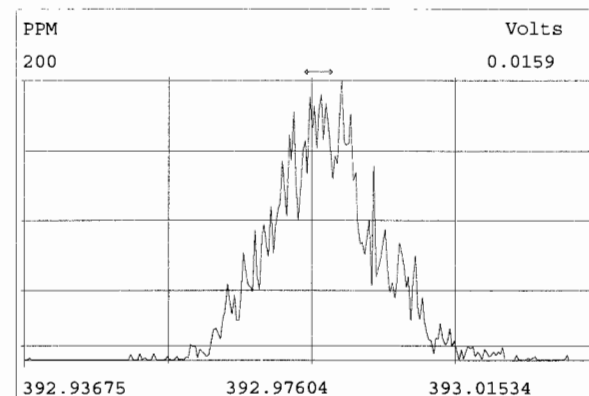
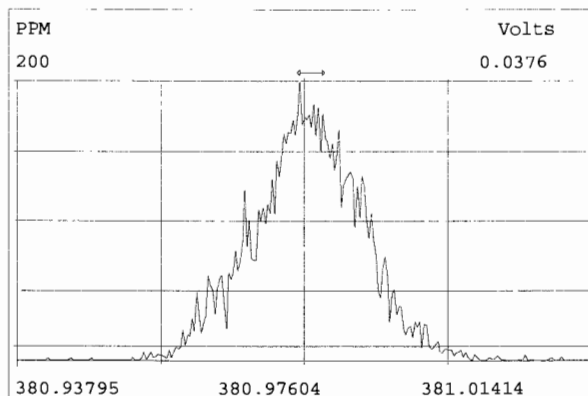
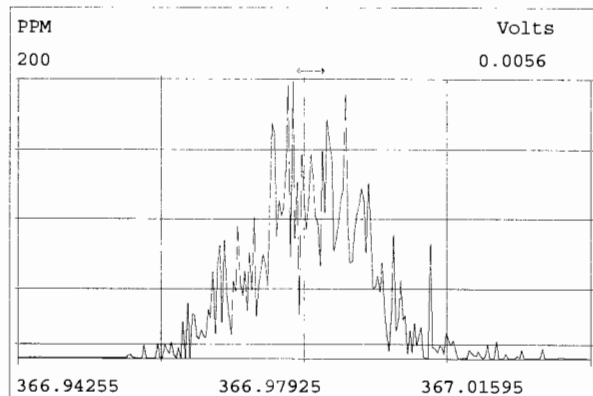
Peak Locate Examination:27-JUN-2019:04:36 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK



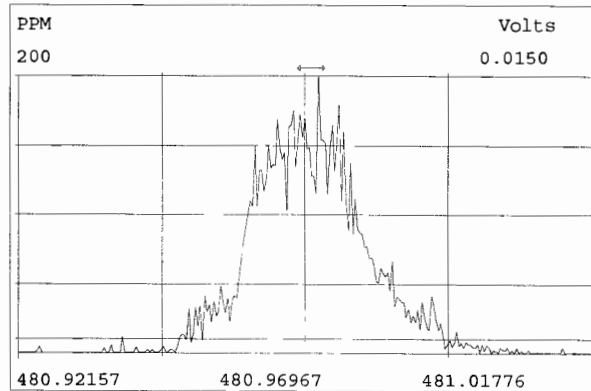
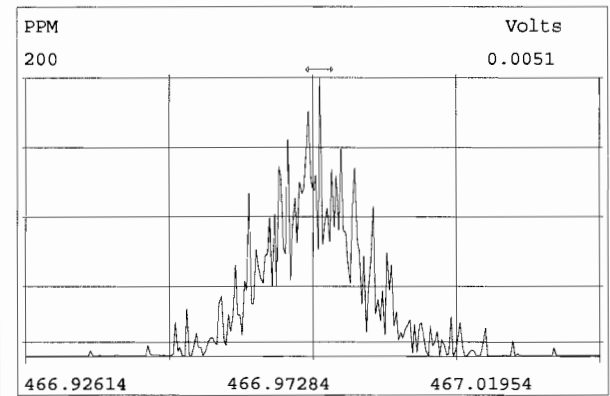
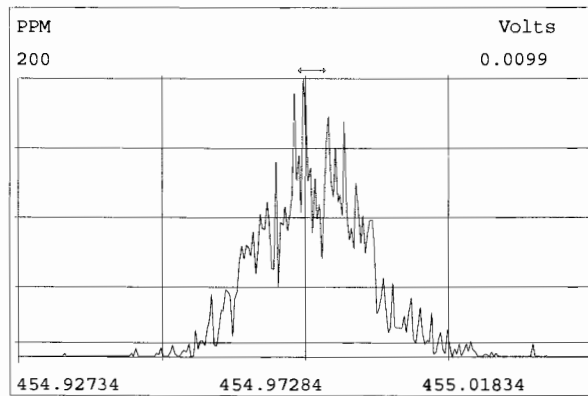
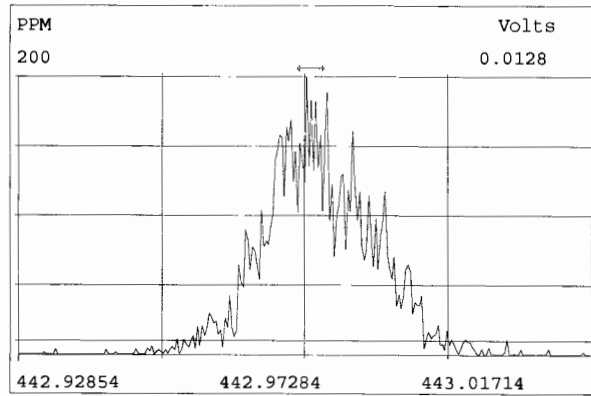
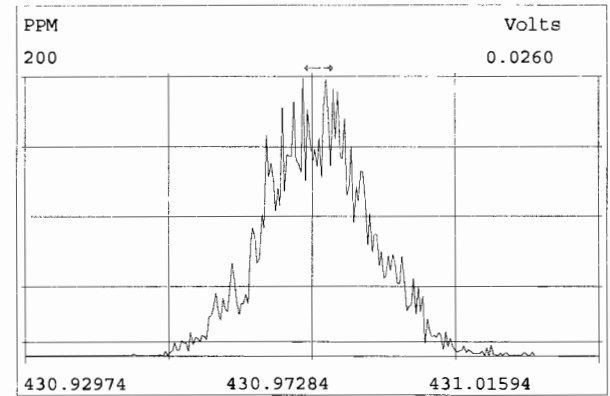
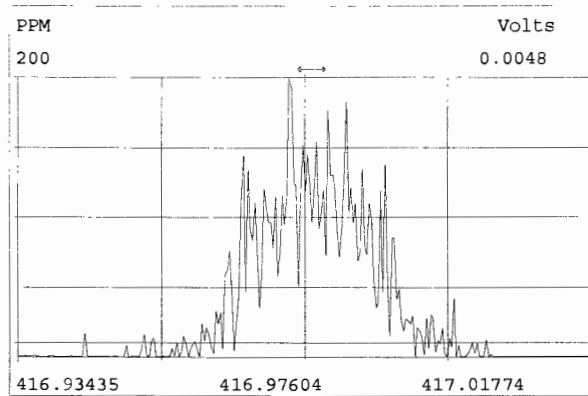
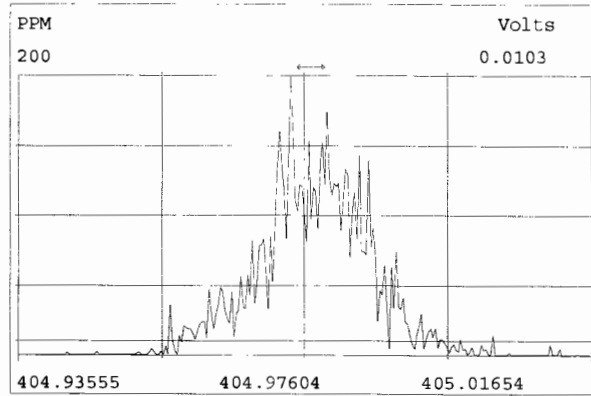
Peak Locate Examination:27-JUN-2019:04:37 File:RES_CHECK

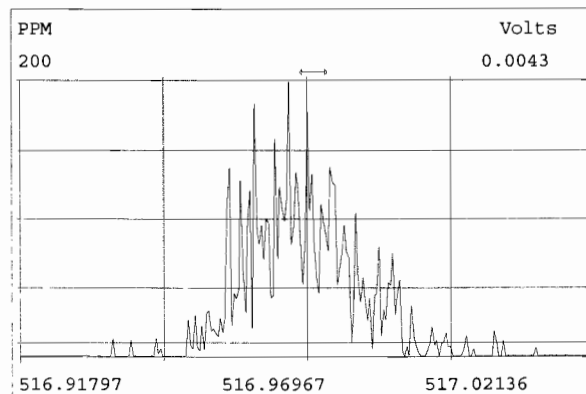
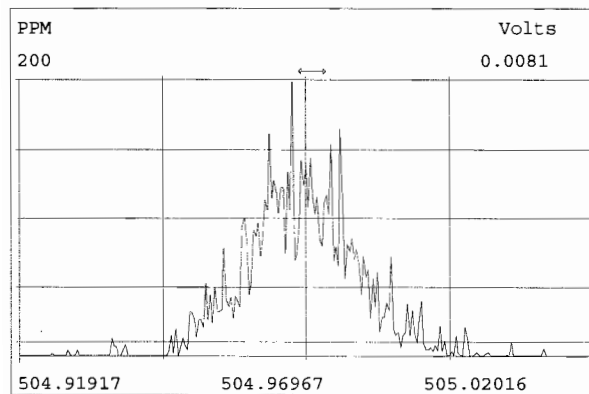
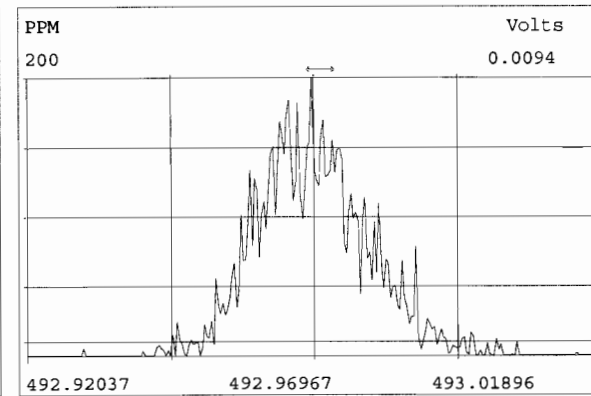
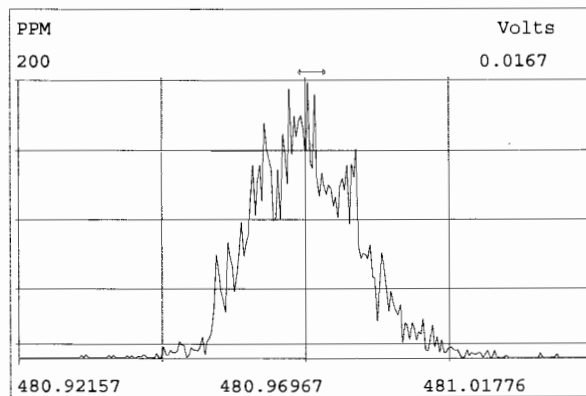
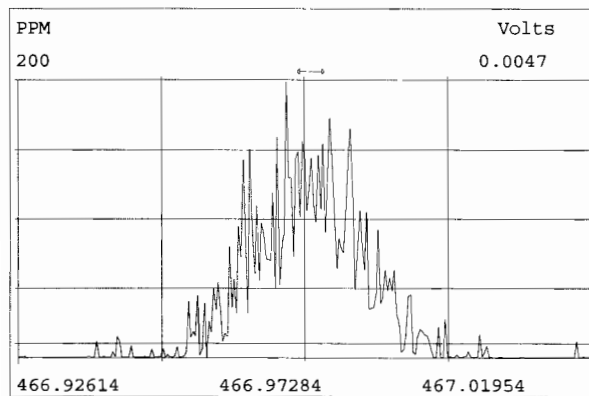
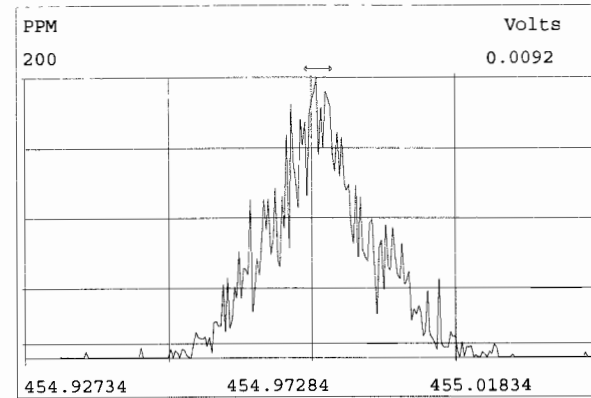
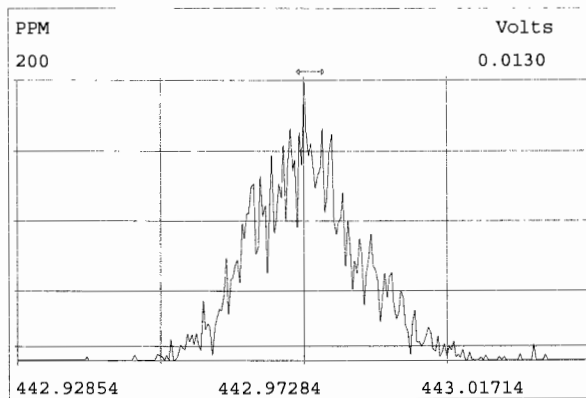
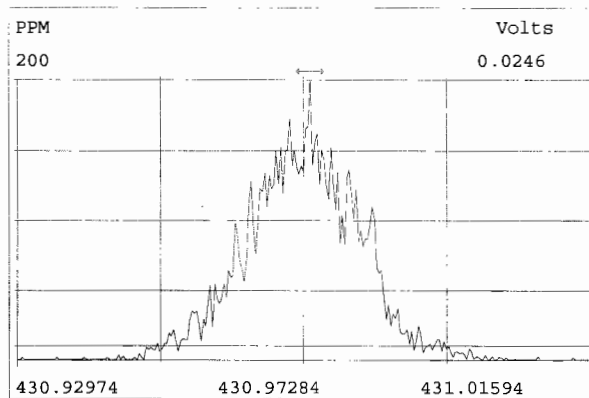
Experiment:OCDD_DB5 Function:3 Reference:PFK



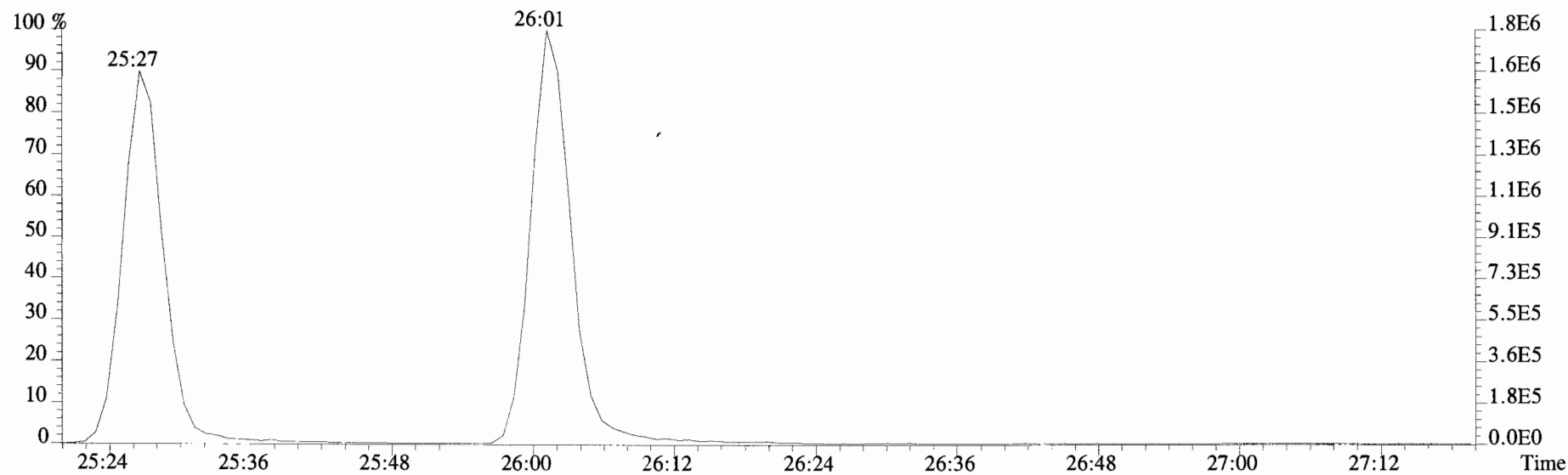
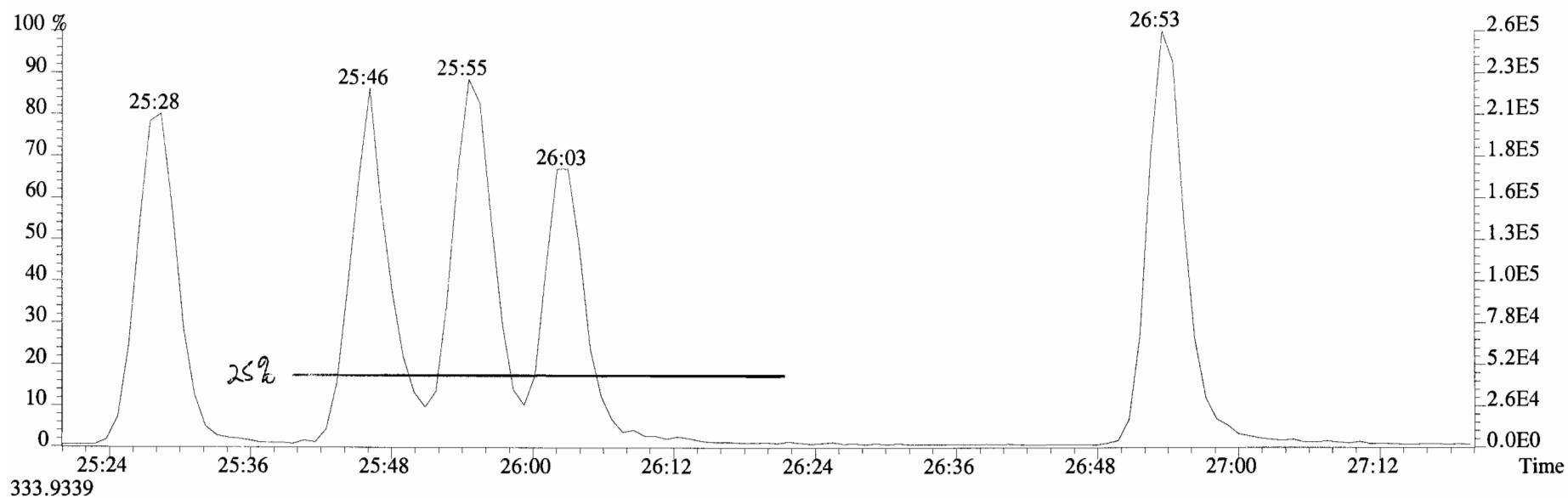
Peak Locate Examination:27-JUN-2019:04:38 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK

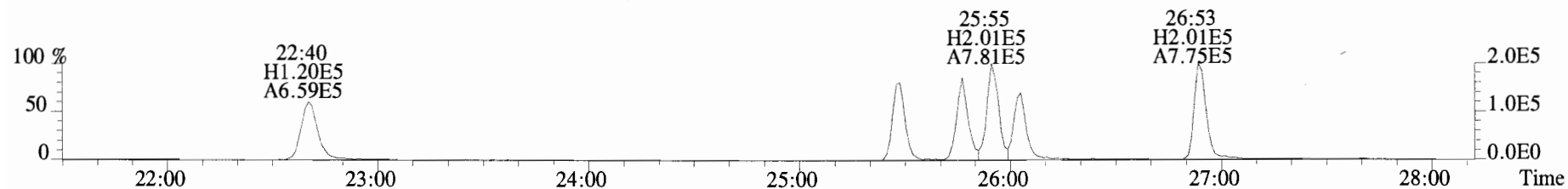




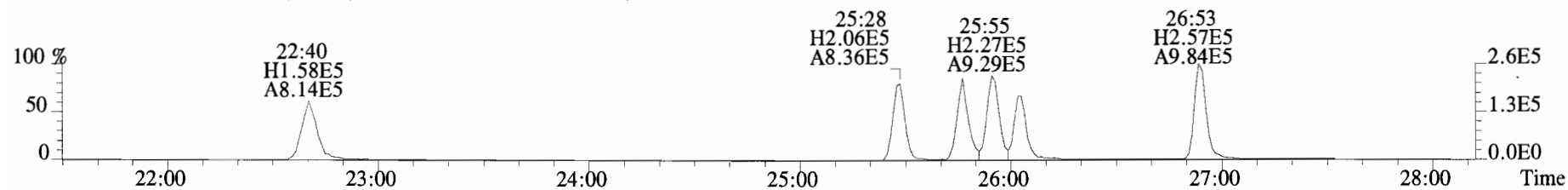
File:190626D2 #1-514 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



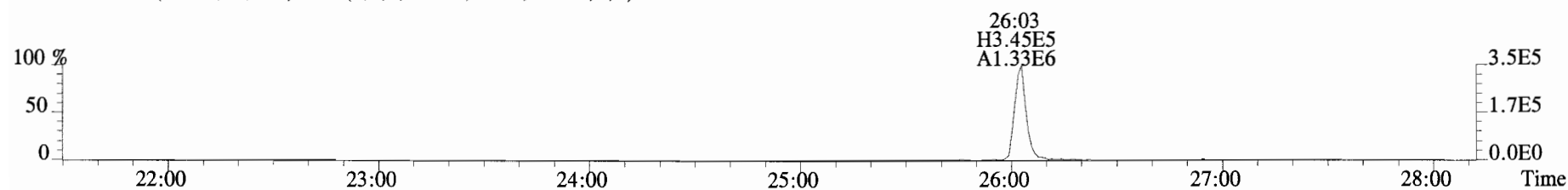
File:190626D2 #1-514 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



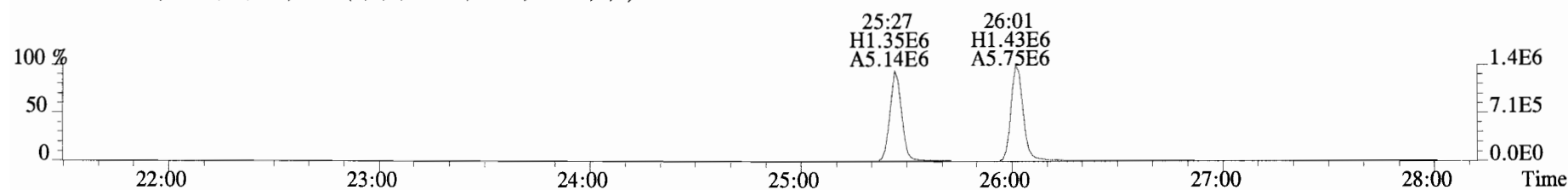
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



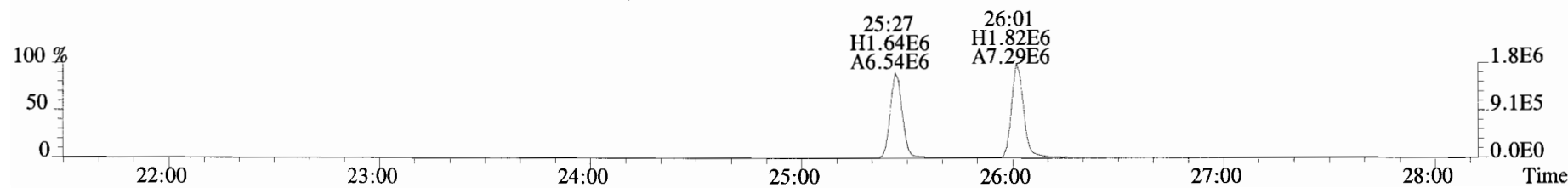
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



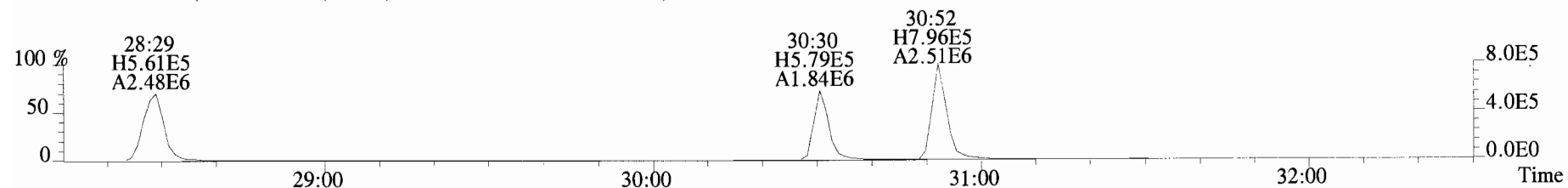
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



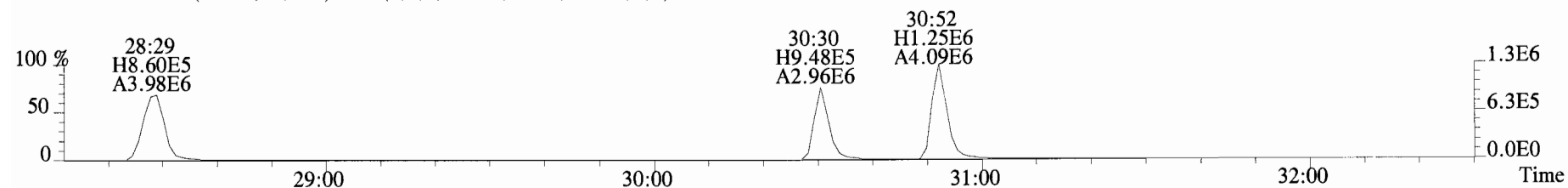
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



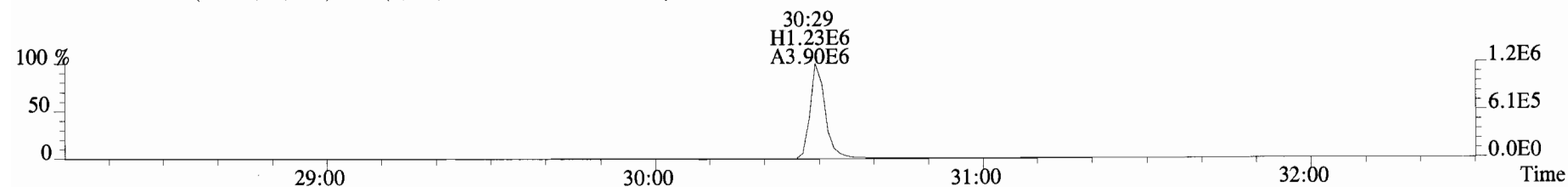
File:190626D2 #1-184 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



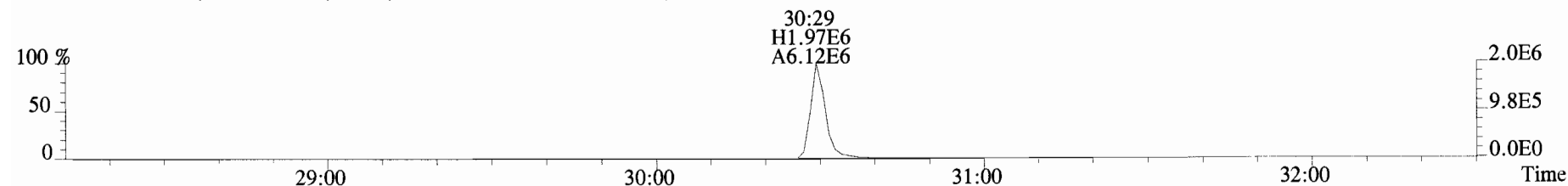
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



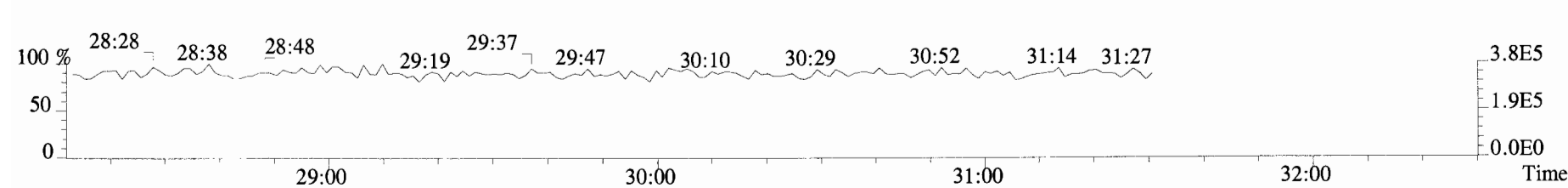
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



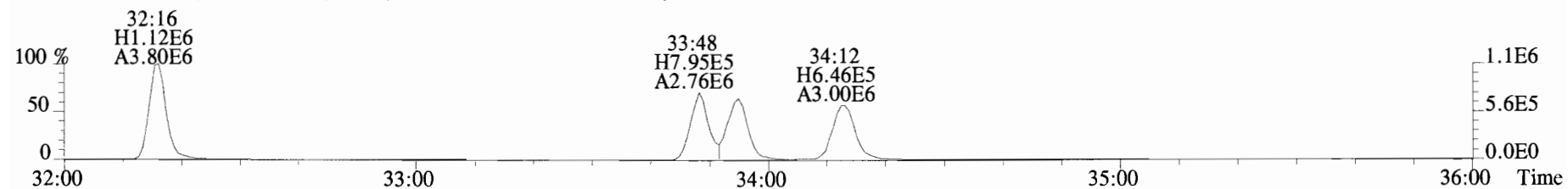
366.9792 F:2



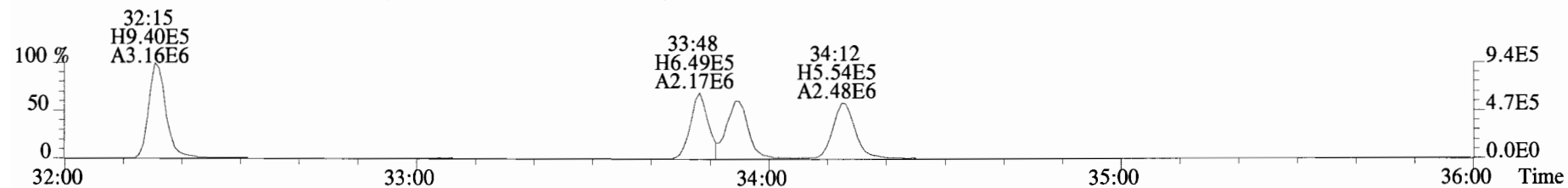
File:190626D2 #1-399 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE

Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5

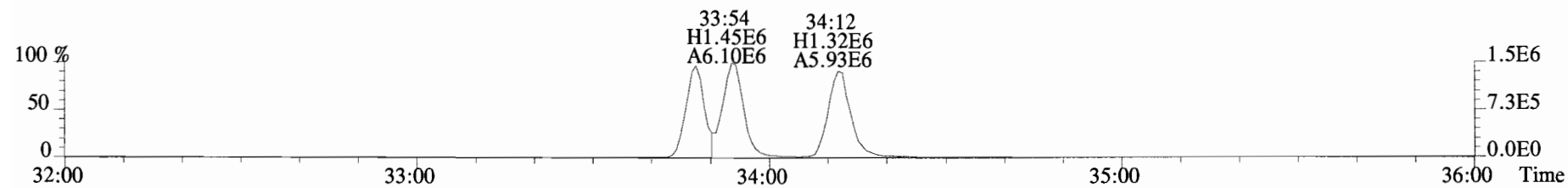
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



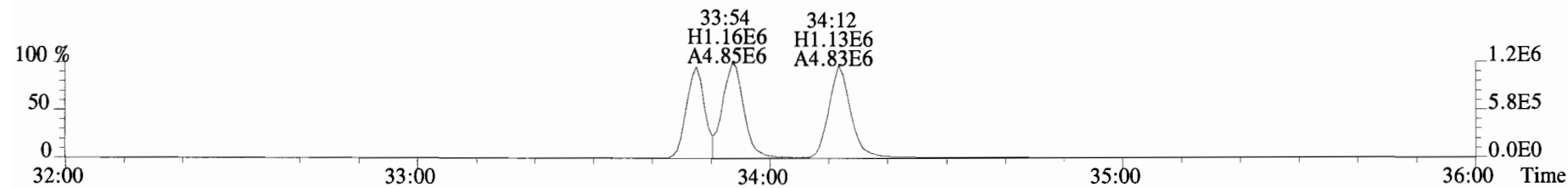
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



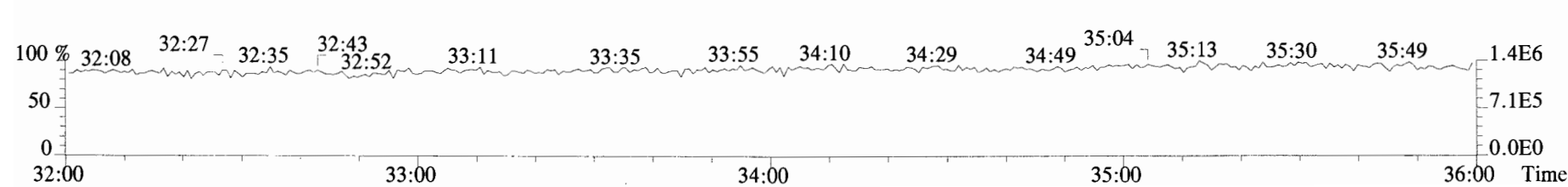
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



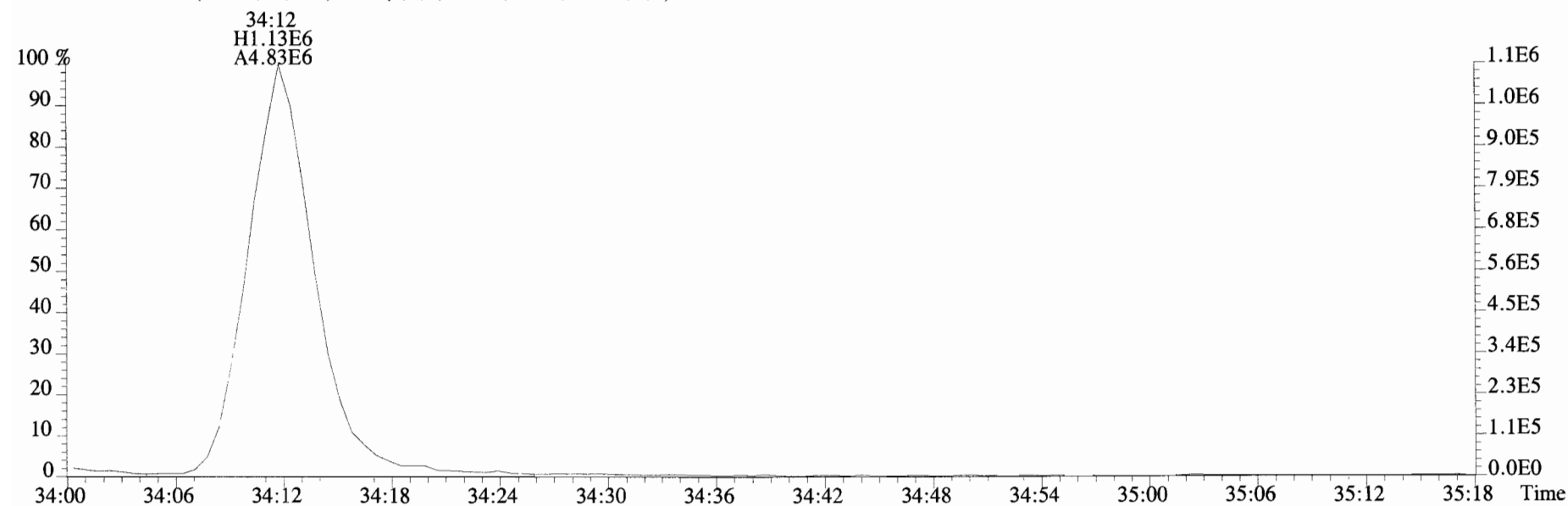
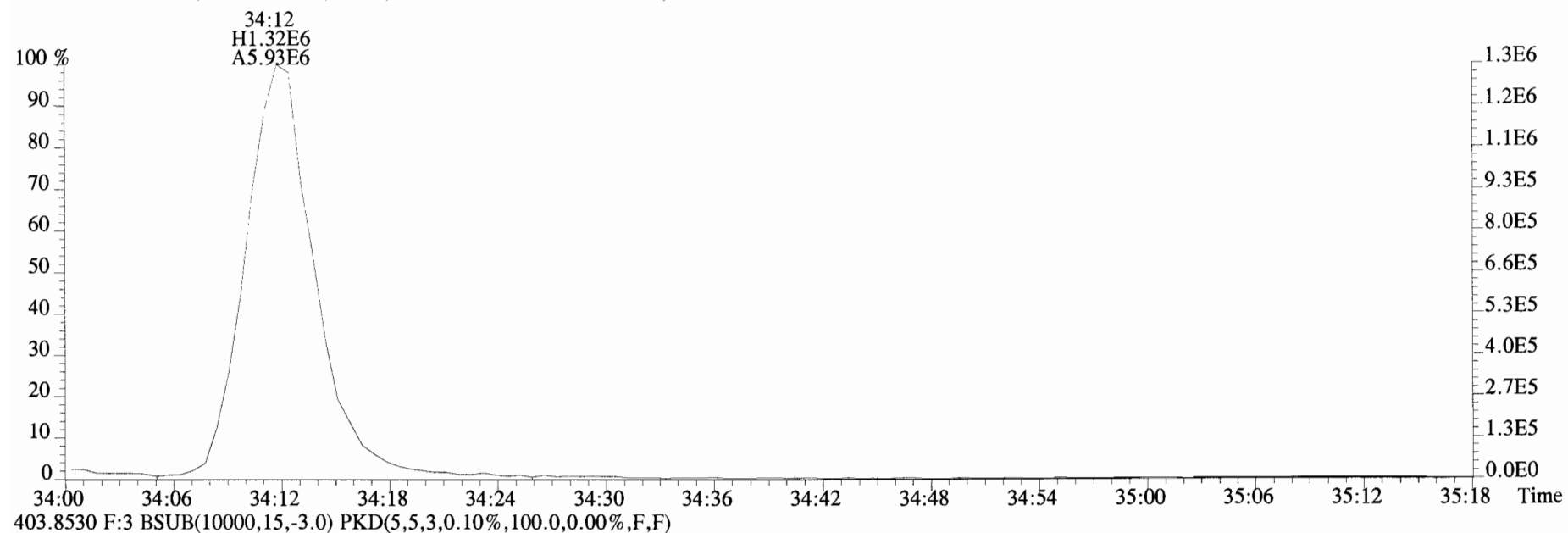
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



392.9760 F:3



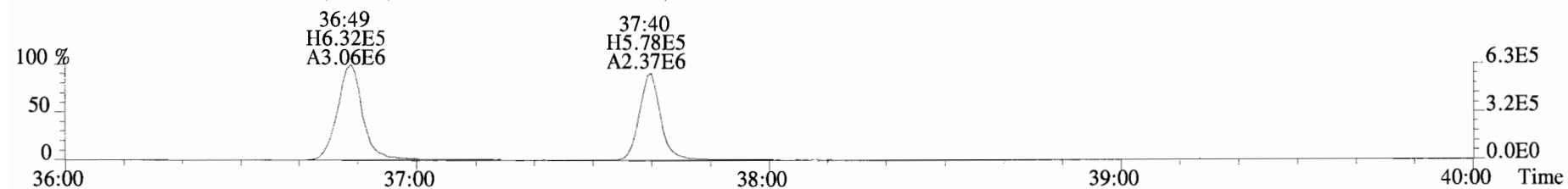
File:190626D2 #1-399 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



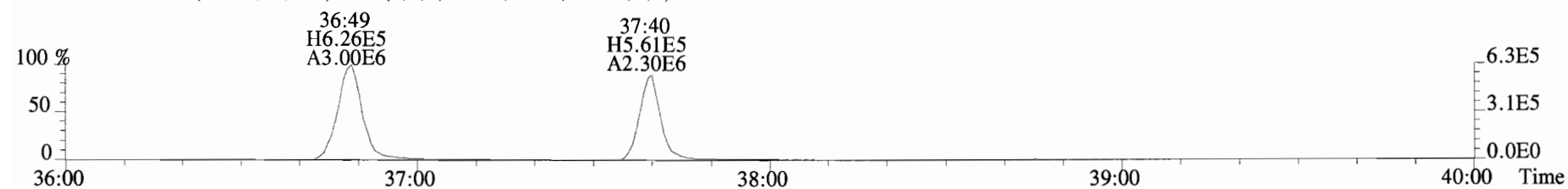
File:190626D2 #1-356 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE

Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5

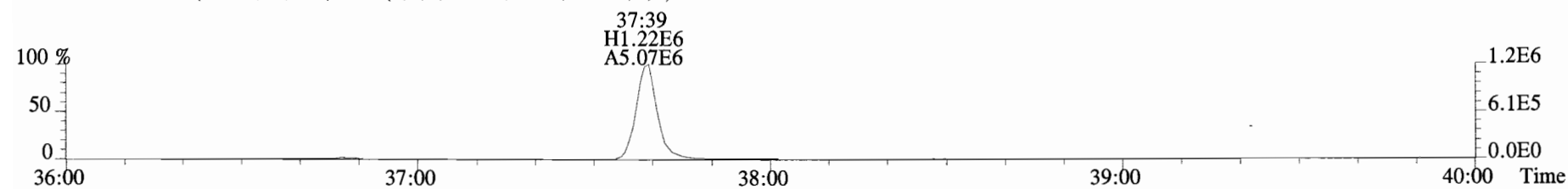
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



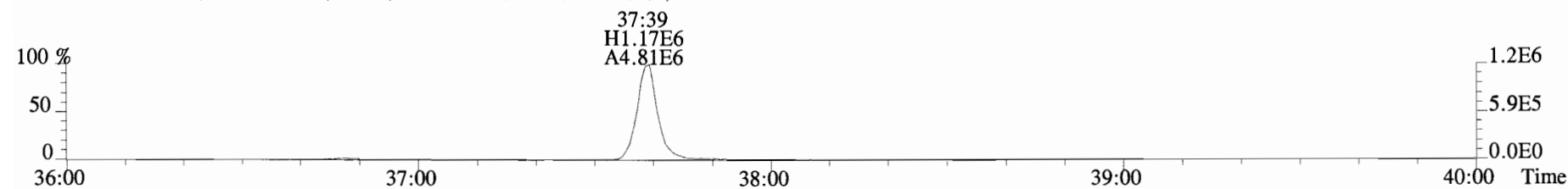
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



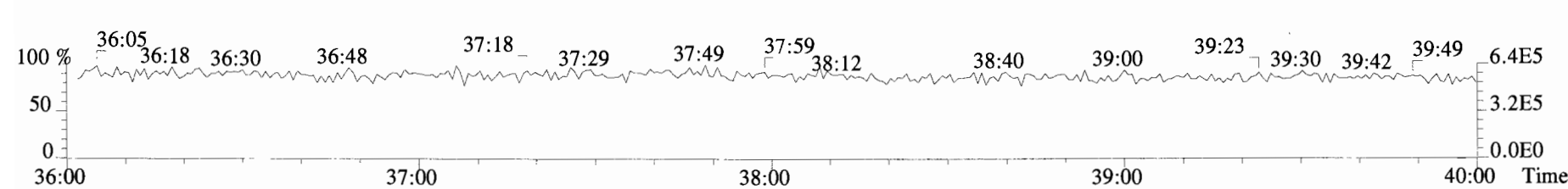
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



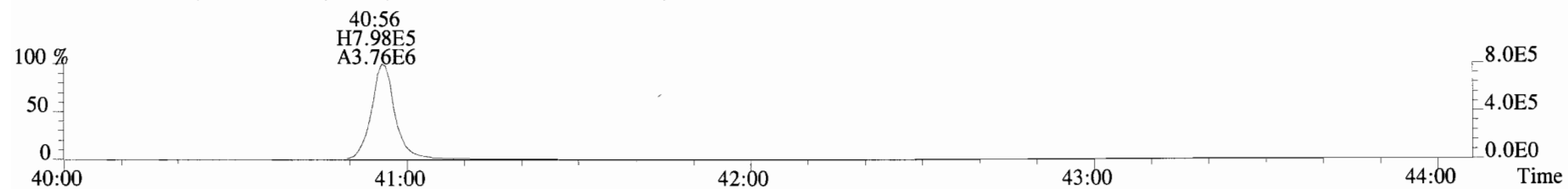
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



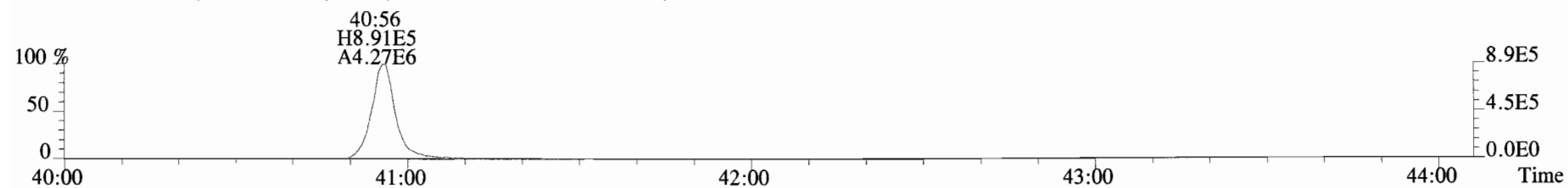
454.9728 F:4



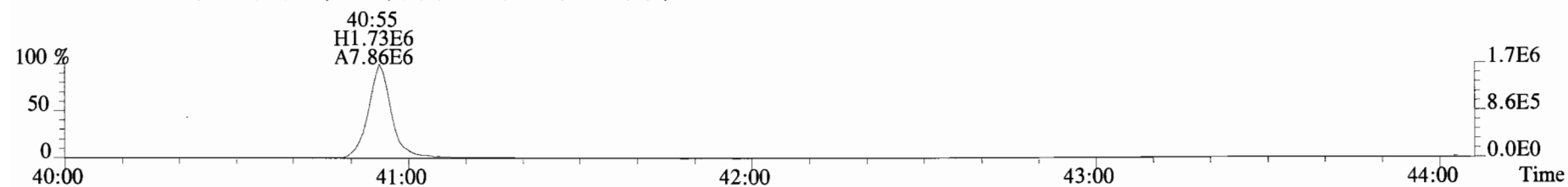
File:190626D2 #1-431 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



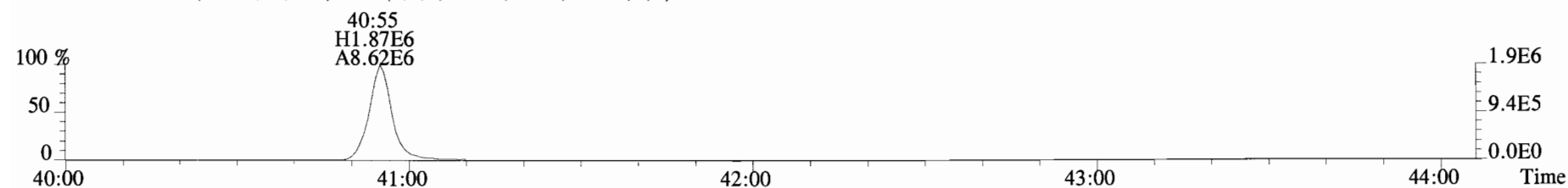
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



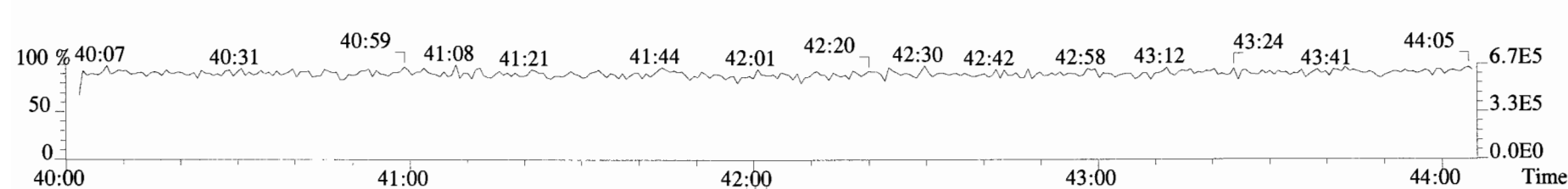
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



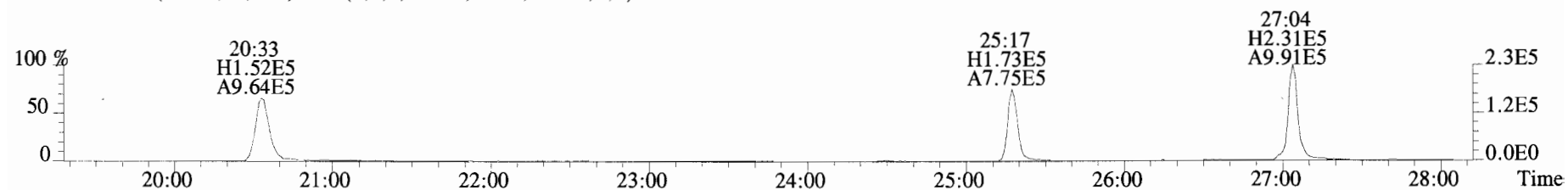
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



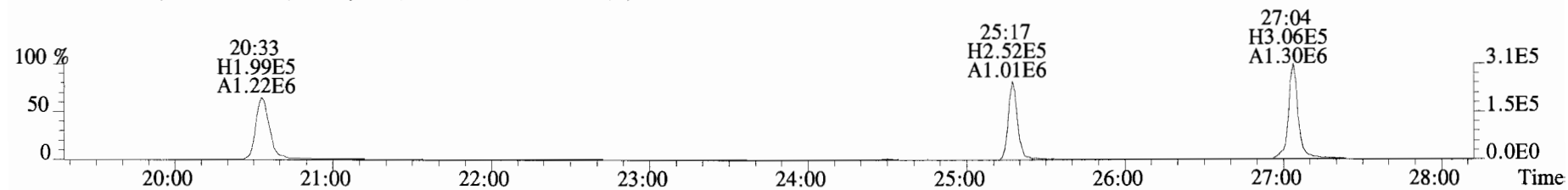
454.9728 F:5



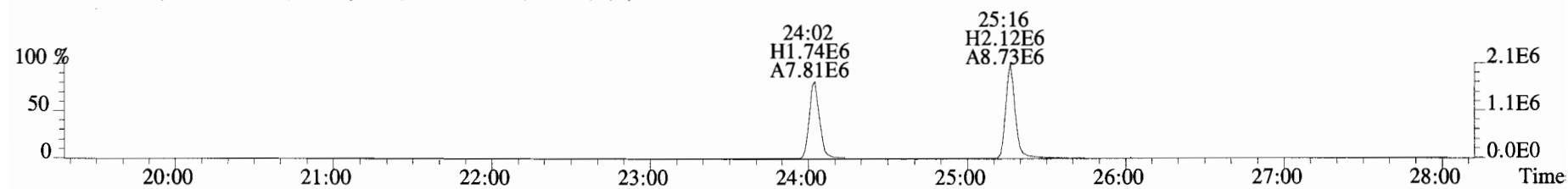
File:190626D2 #1-514 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



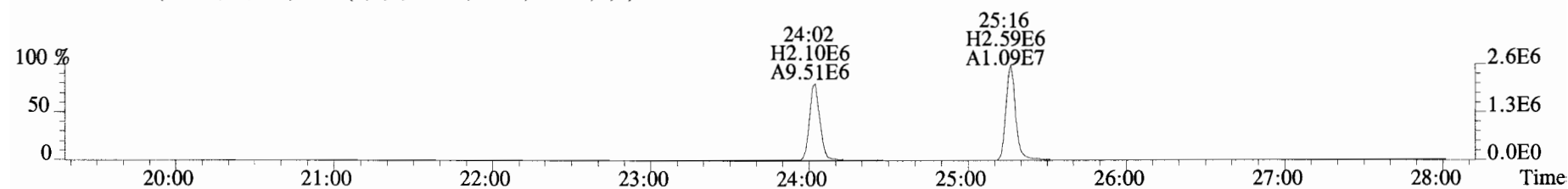
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



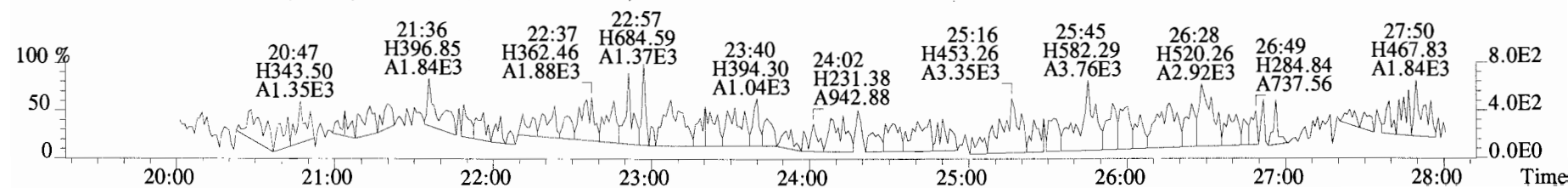
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



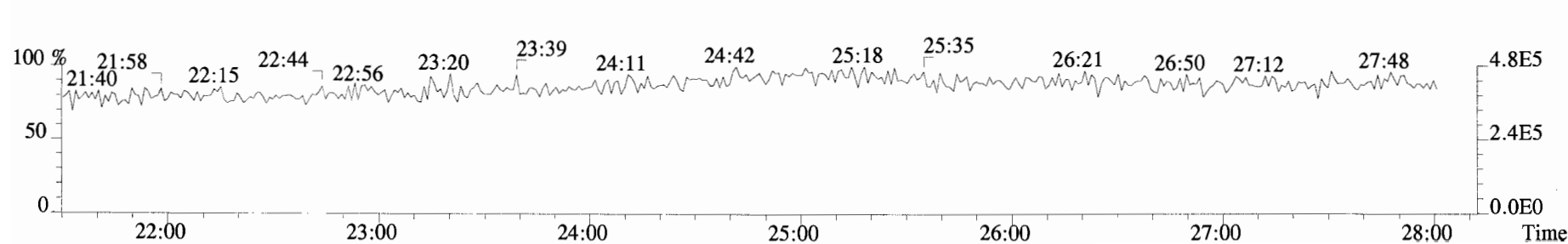
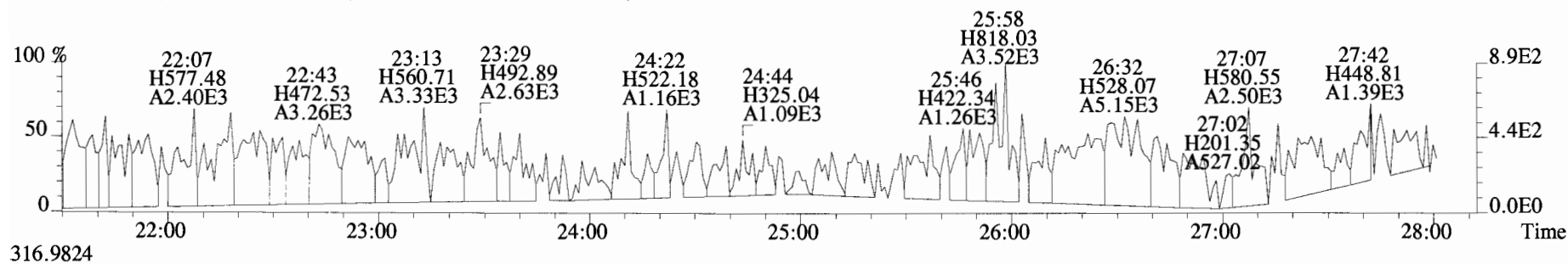
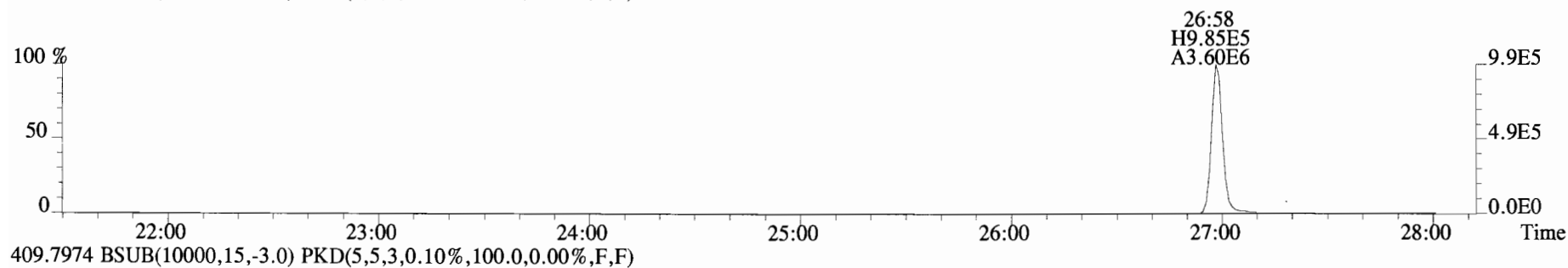
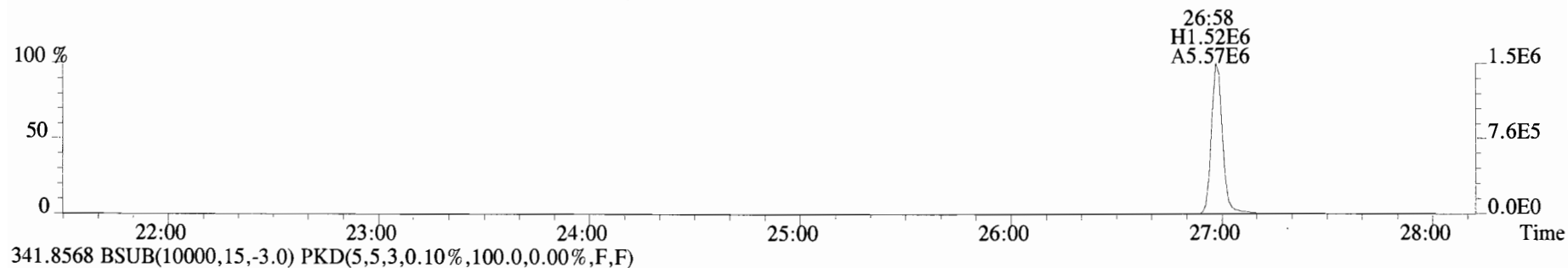
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



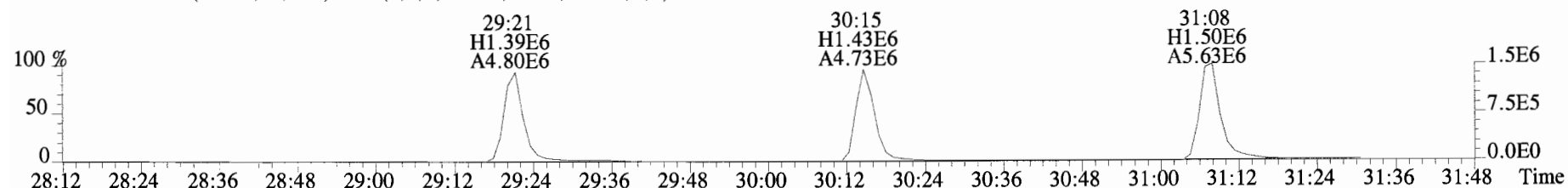
File:190626D2 #1-514 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



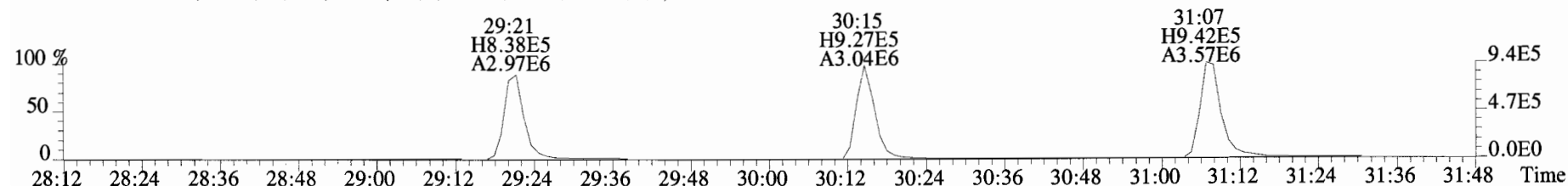
File:190626D2 #1-184 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE

Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5

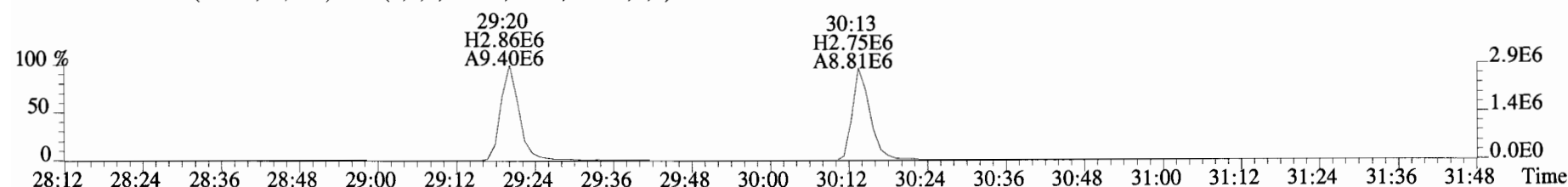
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



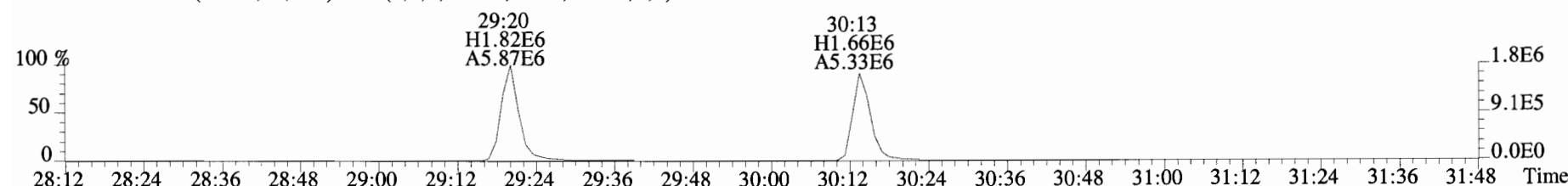
341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



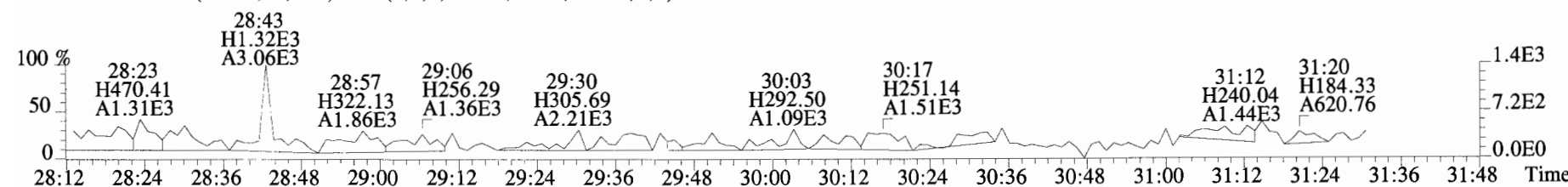
351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



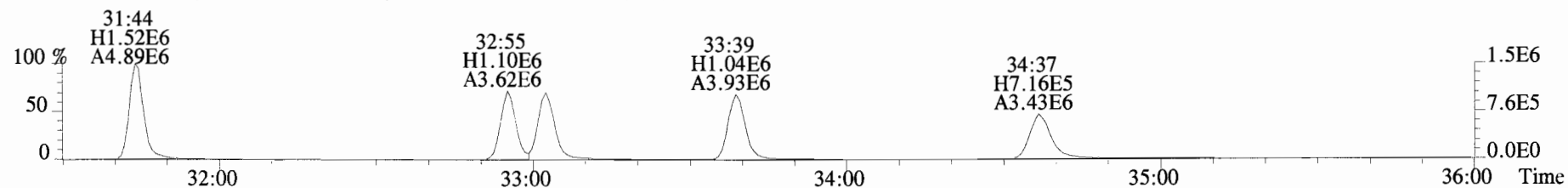
353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



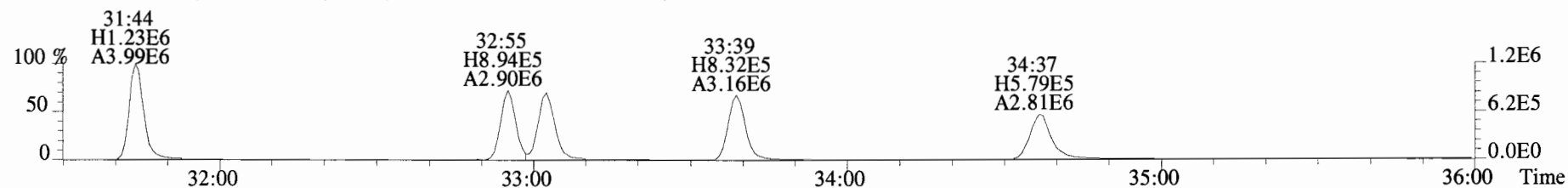
409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



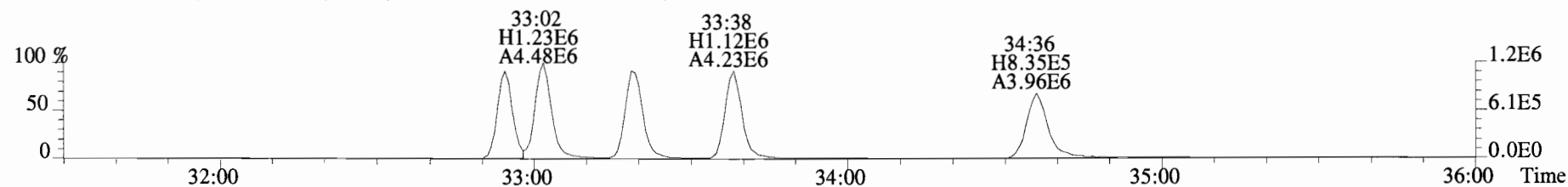
File:190626D2 #1-399 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



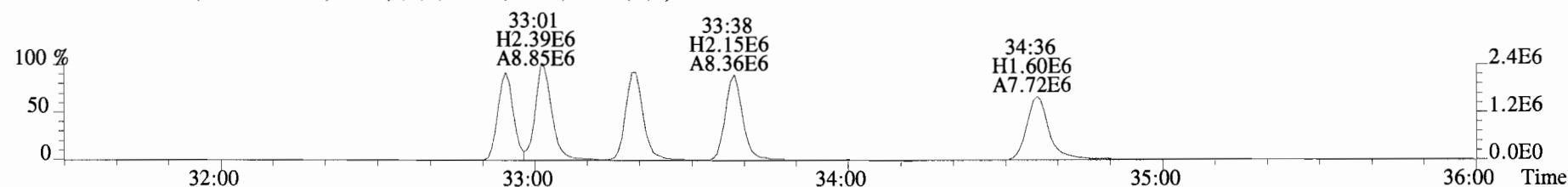
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



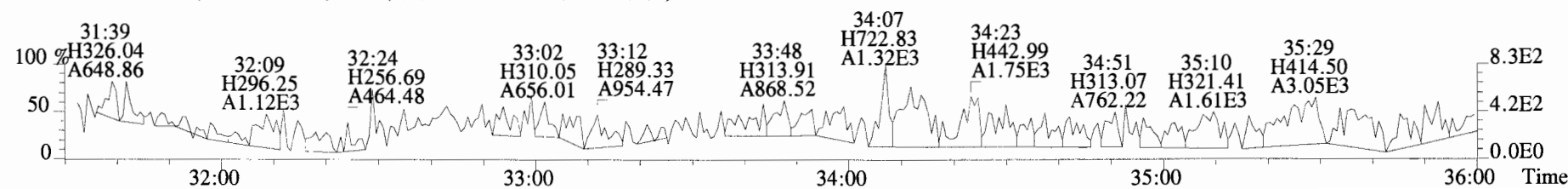
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



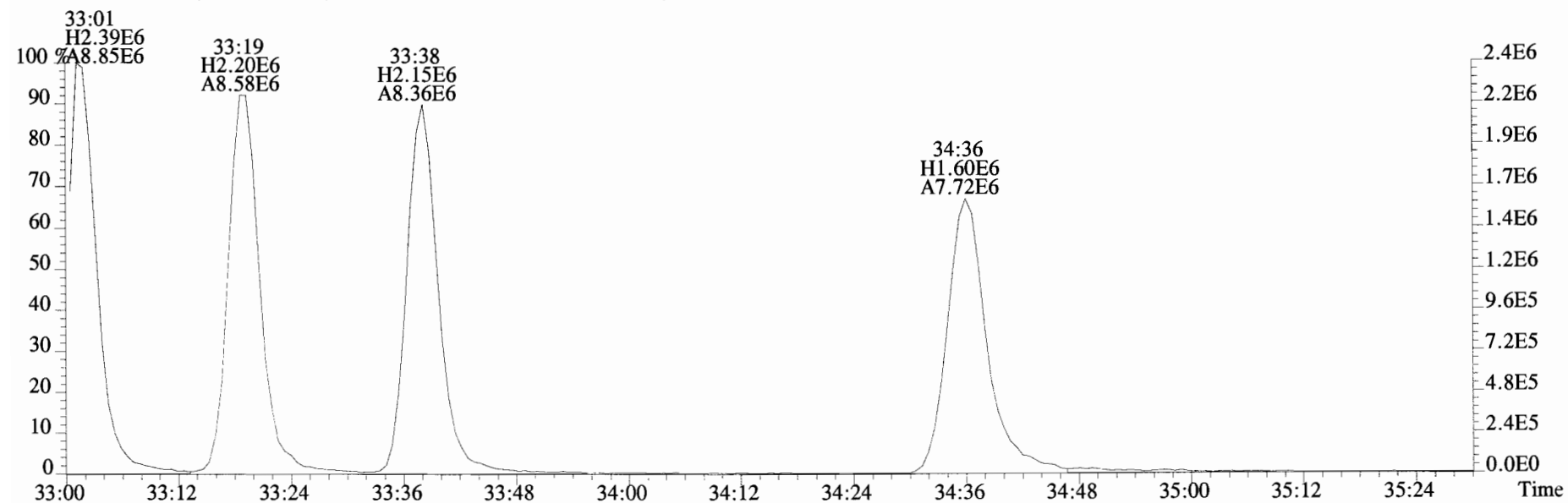
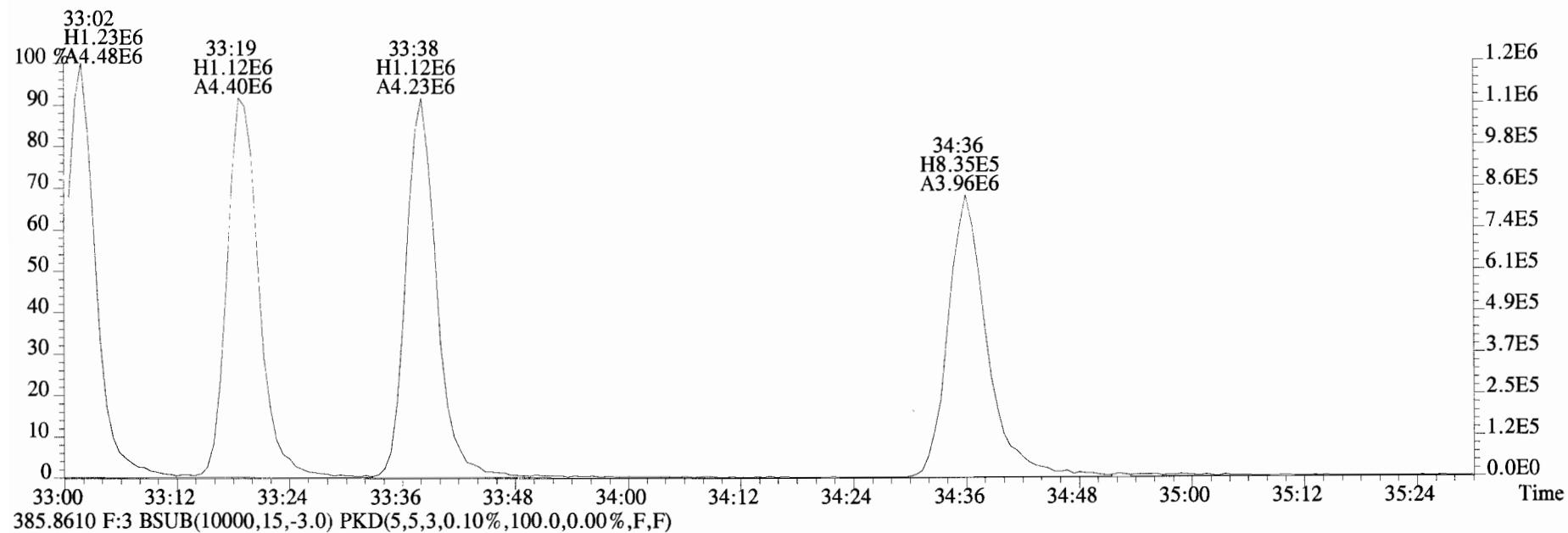
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



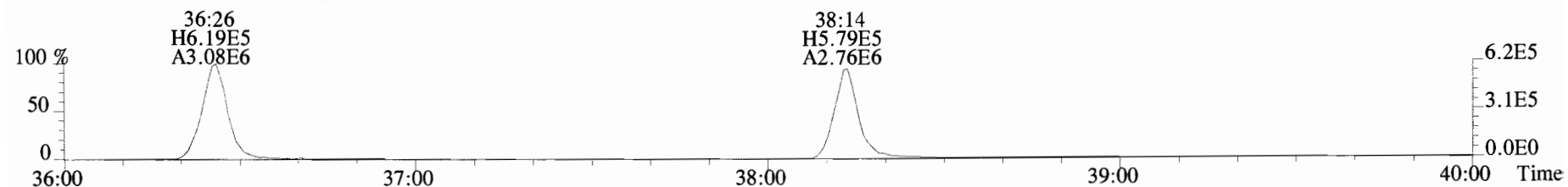
File:190626D2 #1-399 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



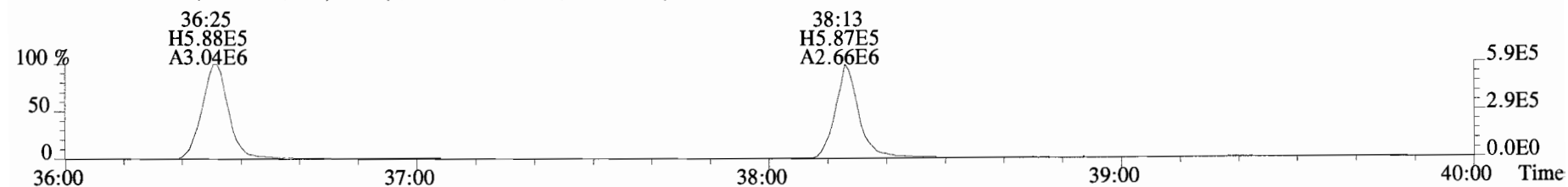
File:190626D2 #1-356 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE

Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD DB5

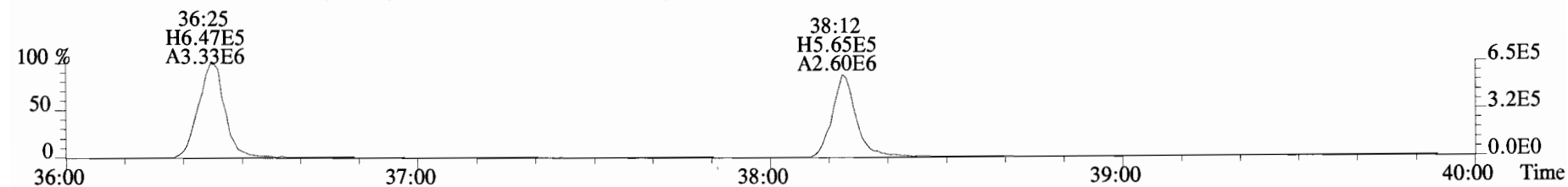
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



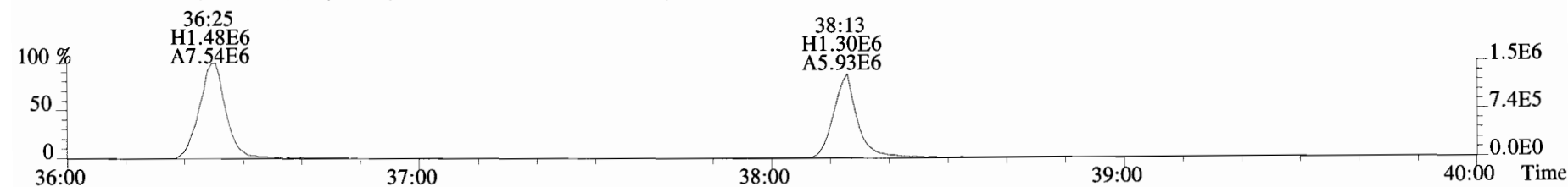
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



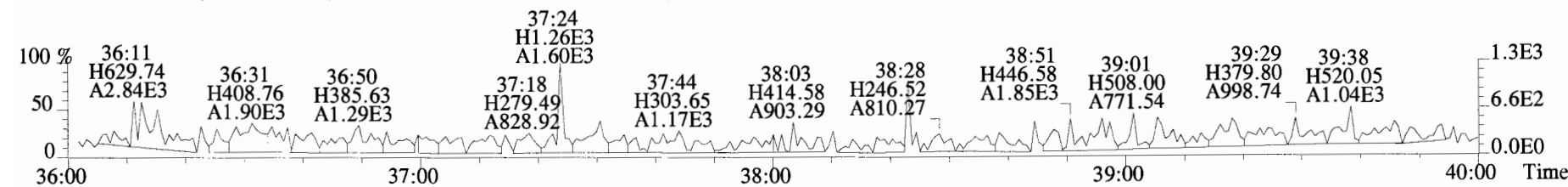
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



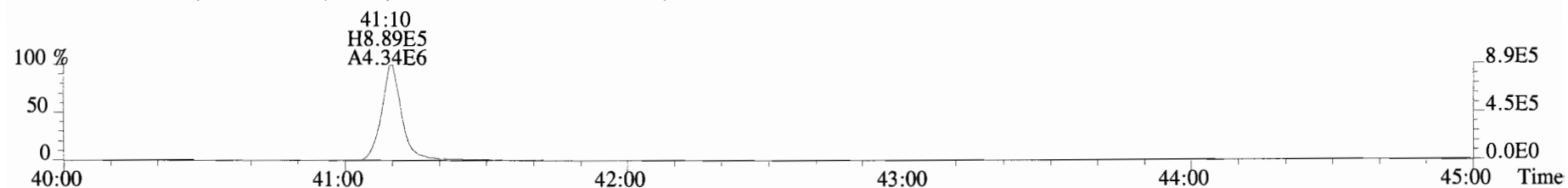
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



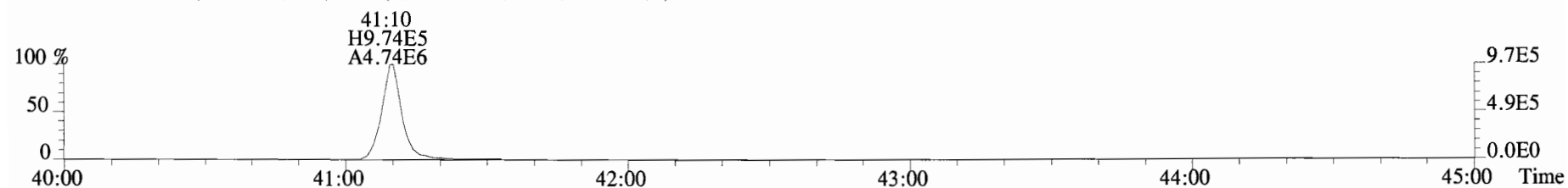
File:190626D2 #1-431 Acq:27-JUN-2019 04:40:31 GC EI+ Voltage SIR Autospec-UltimaE

Sample#1 Text:ST190626D2-1 1613 CS3 19C2204 Exp:OCDD_DB5

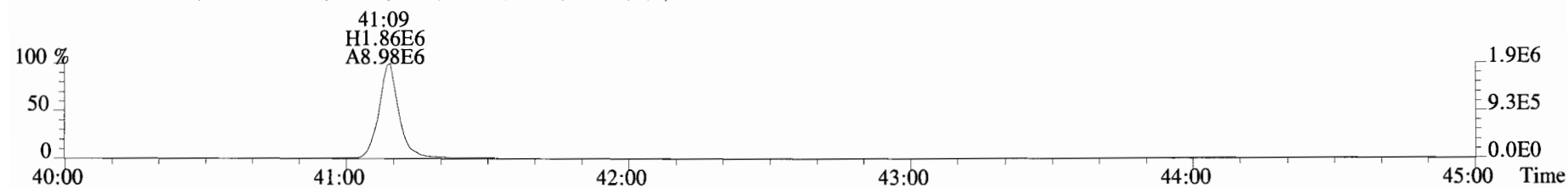
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



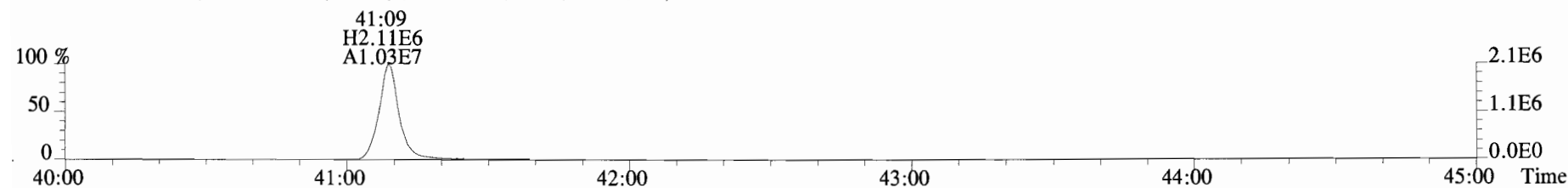
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



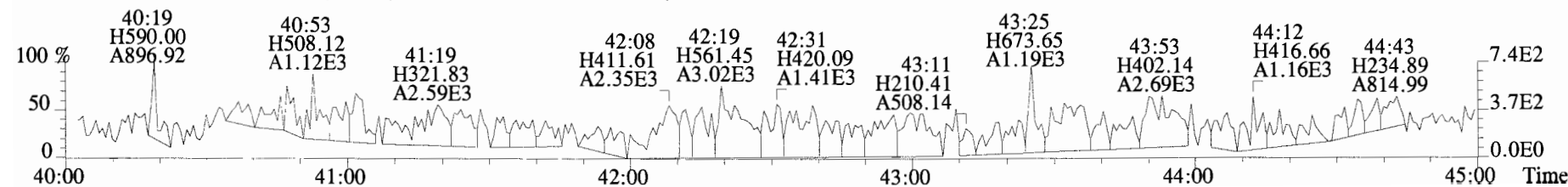
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

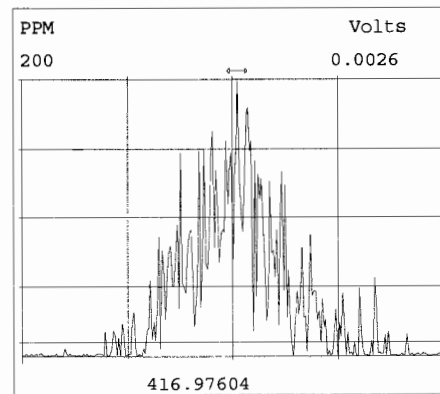
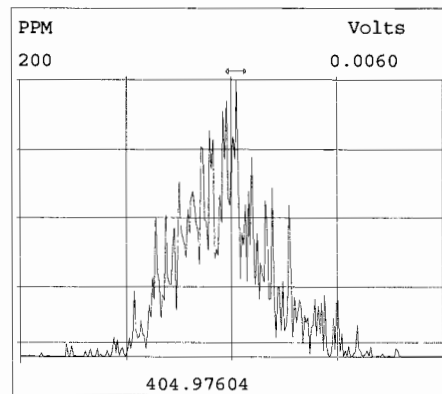
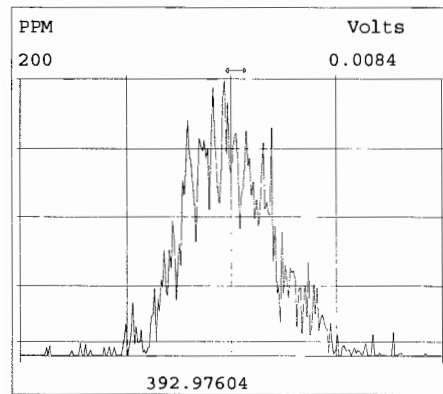
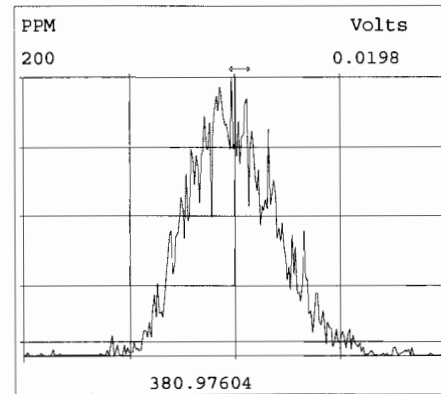
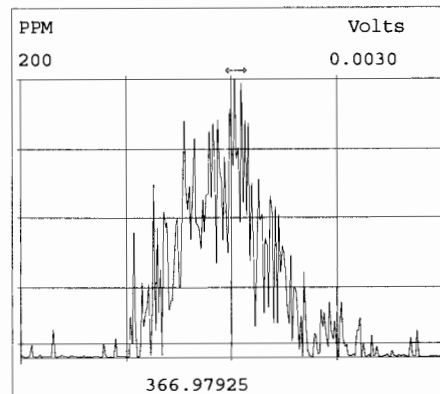
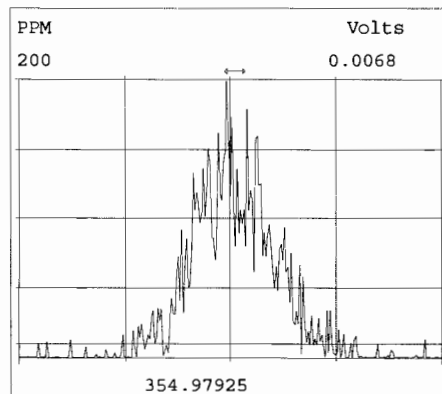
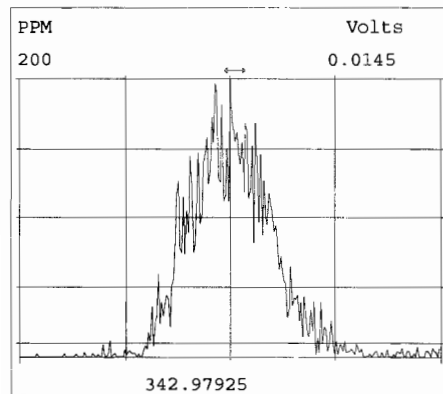
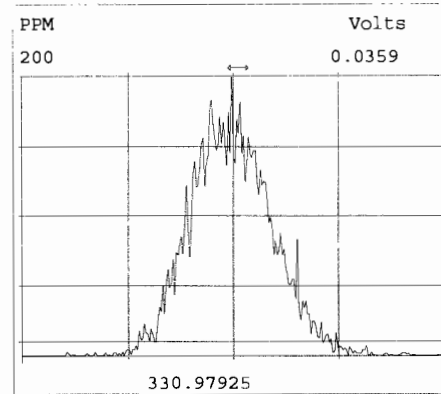
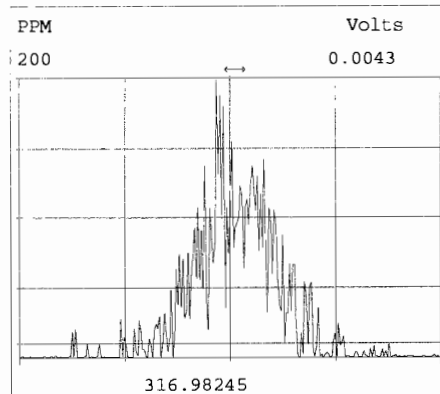
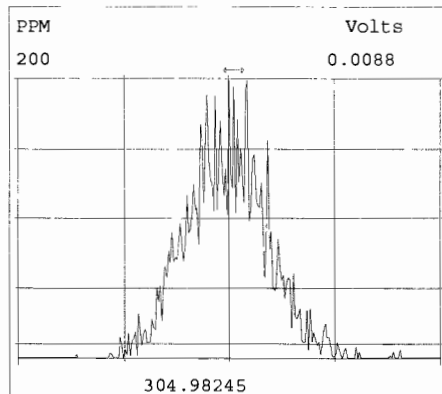
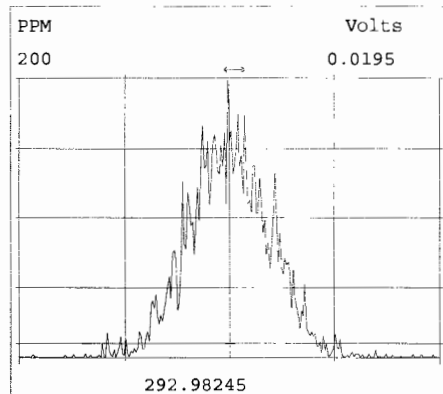


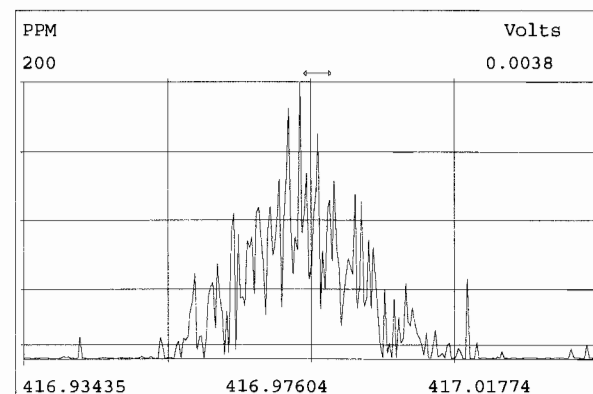
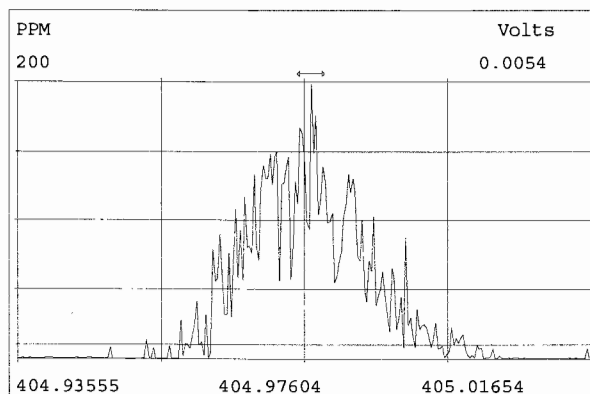
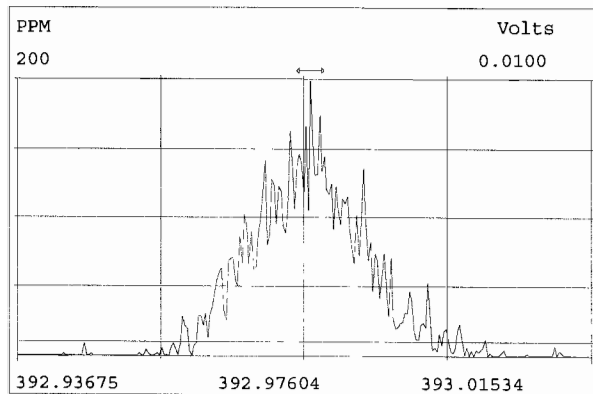
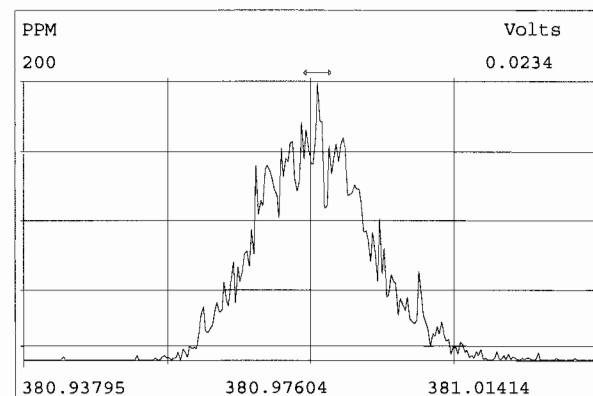
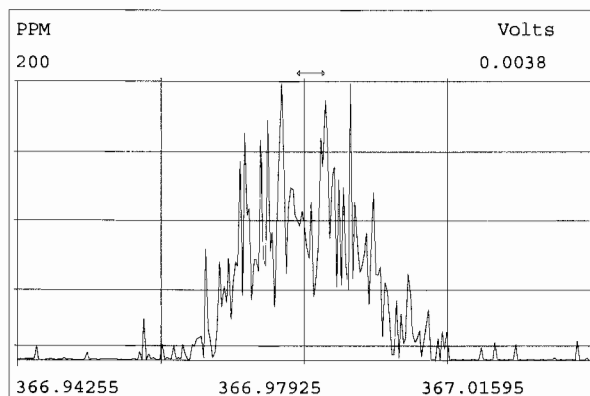
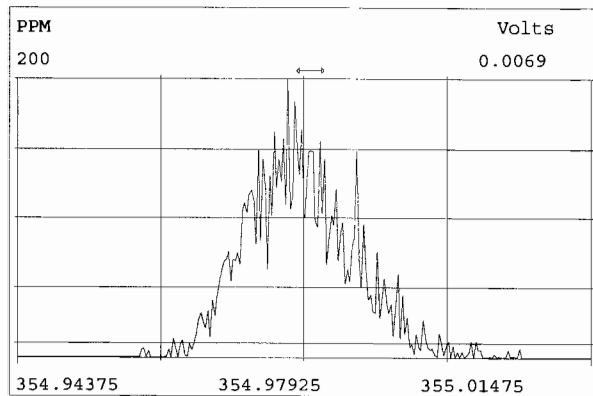
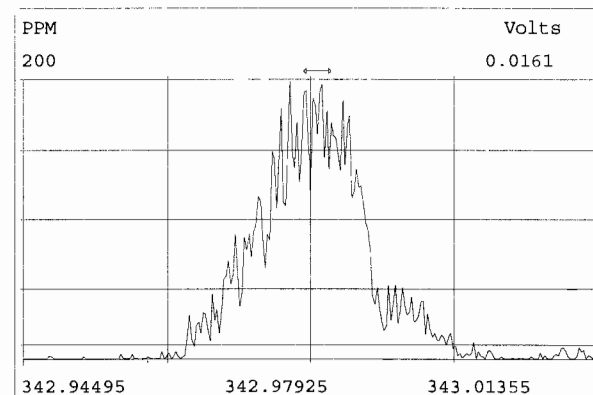
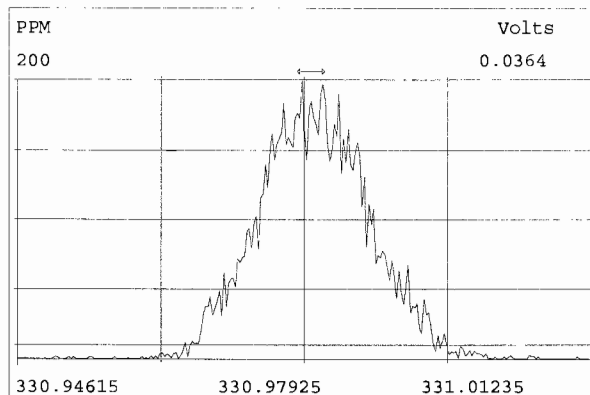
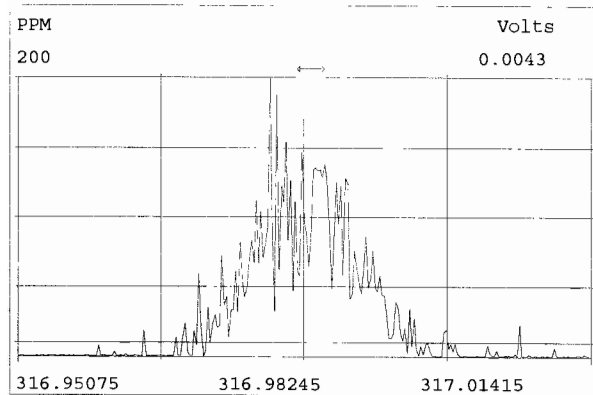
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Peak Locate Examination:27-JUN-2019:16:44 File:RES_CHECK

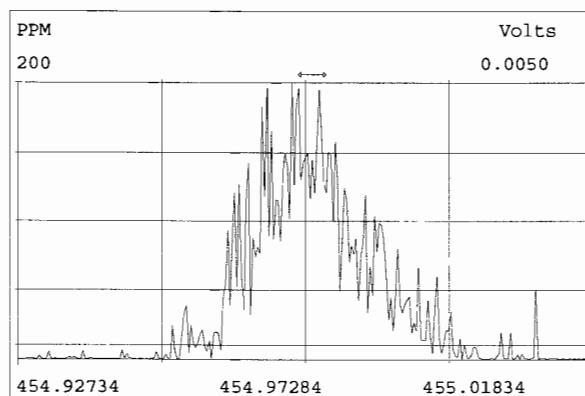
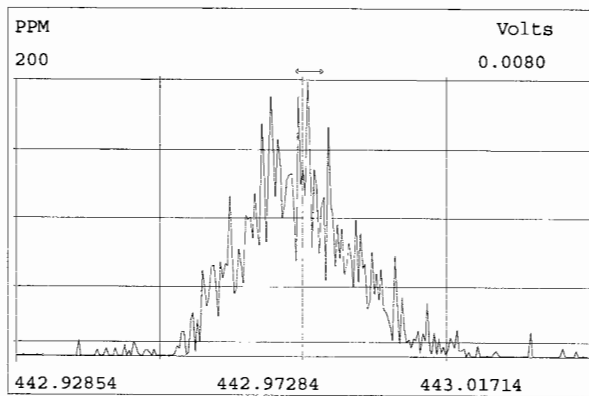
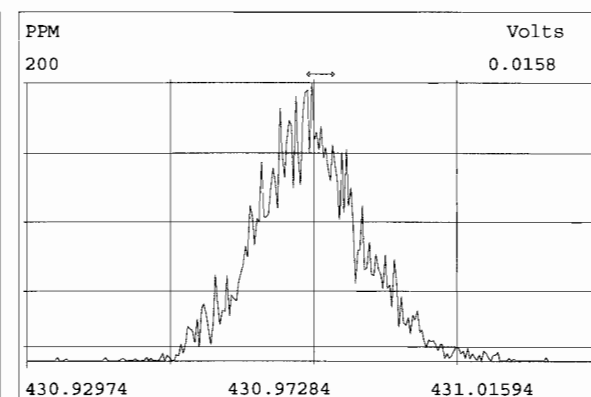
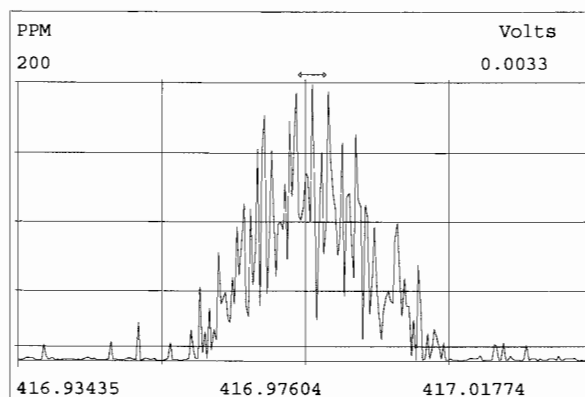
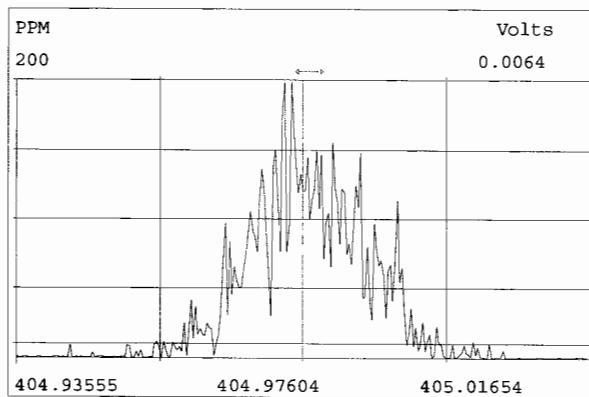
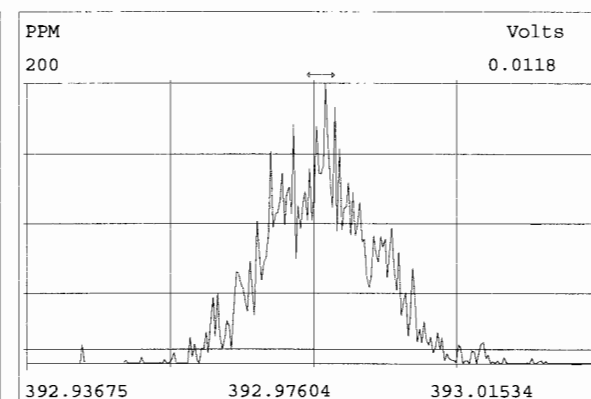
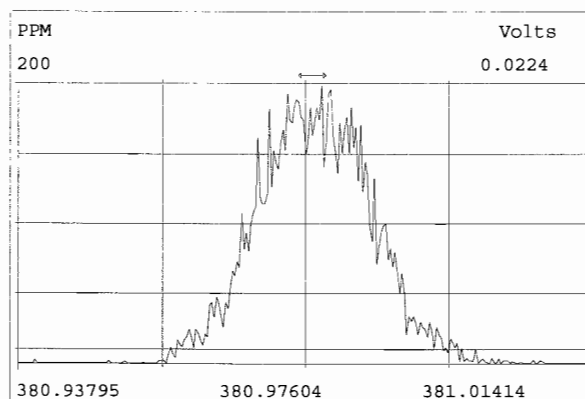
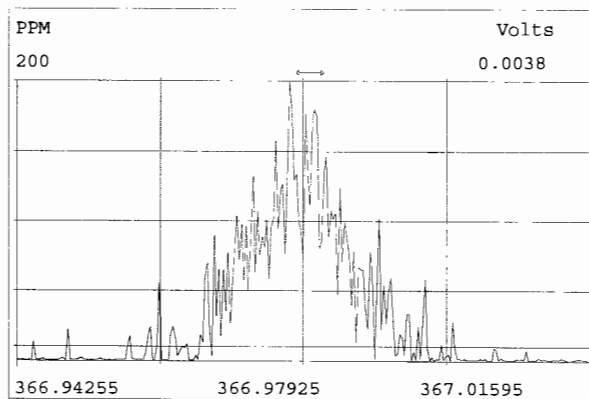
Experiment:OCDD_DB5 Function:1 Reference:PFK





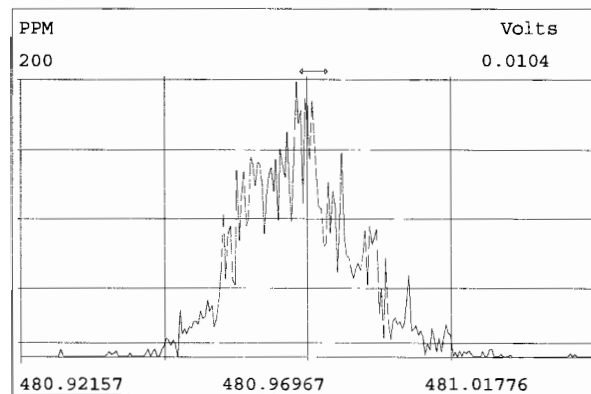
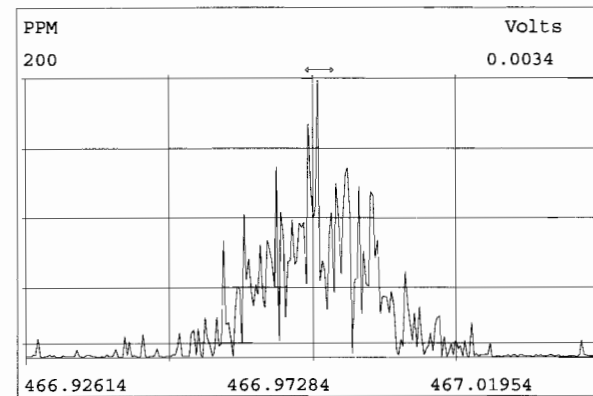
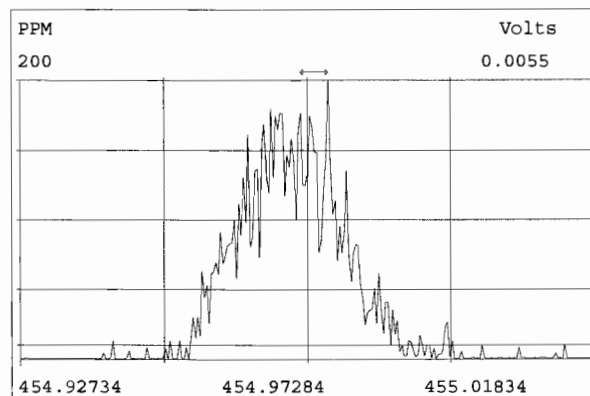
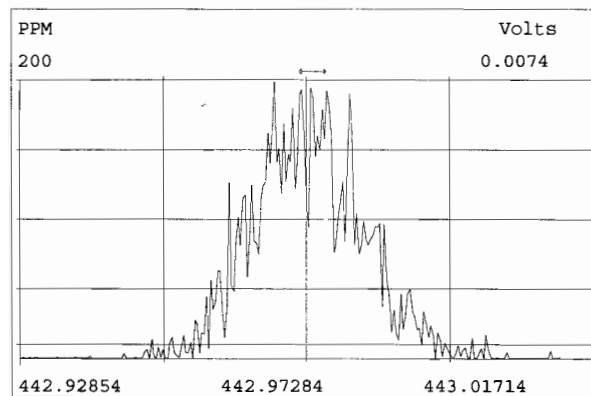
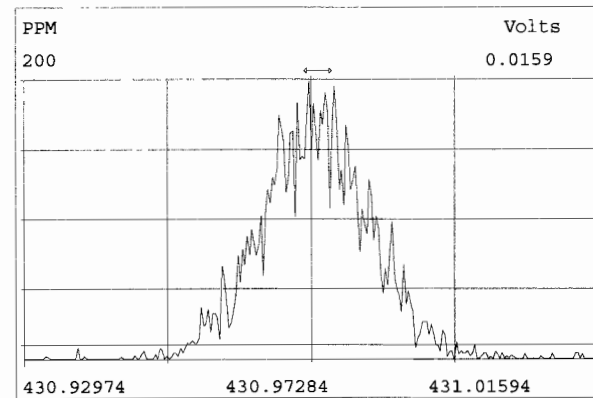
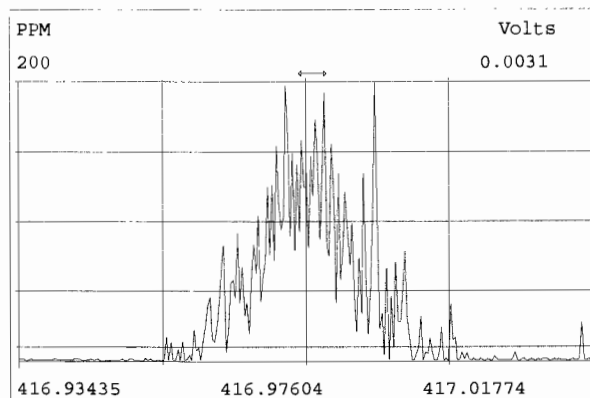
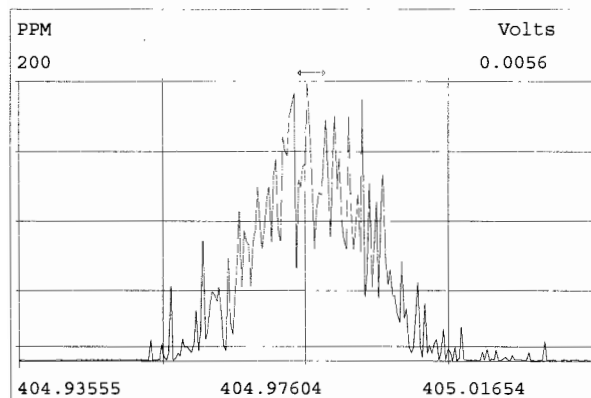
Peak Locate Examination:27-JUN-2019:16:45 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK



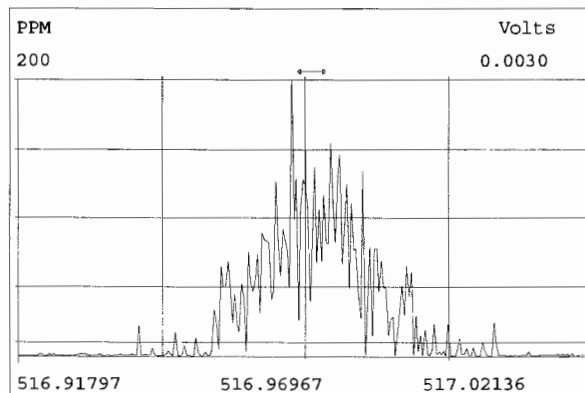
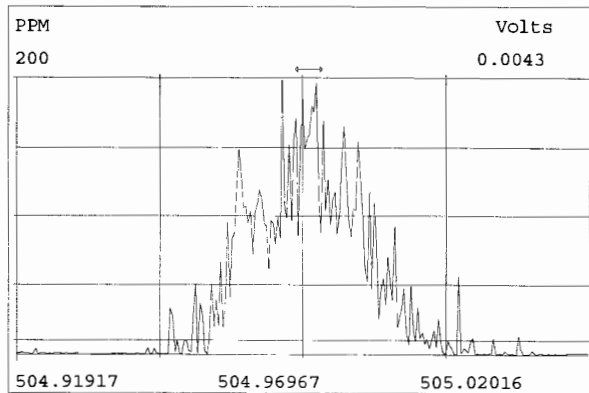
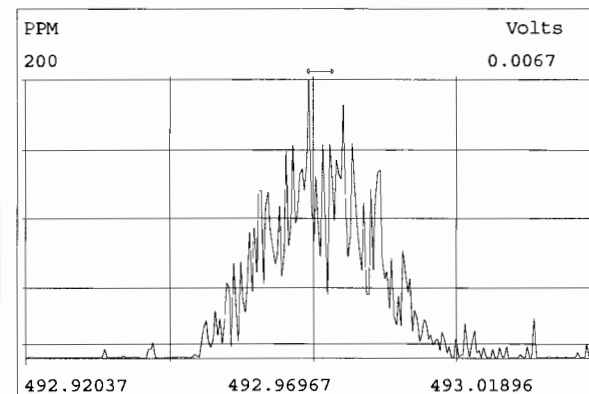
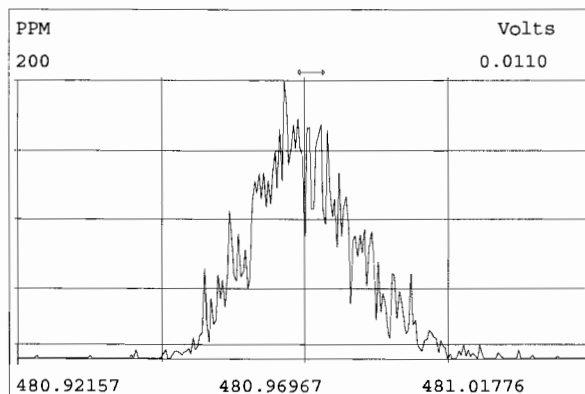
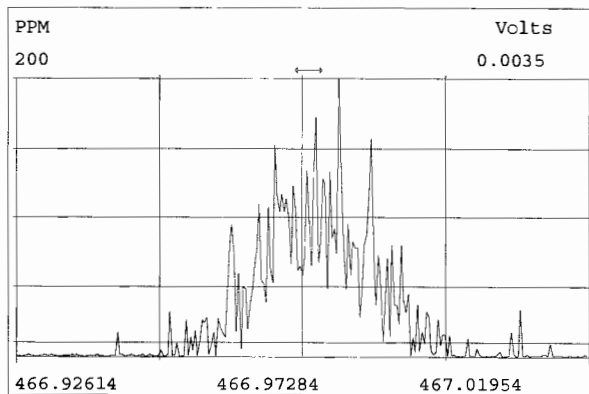
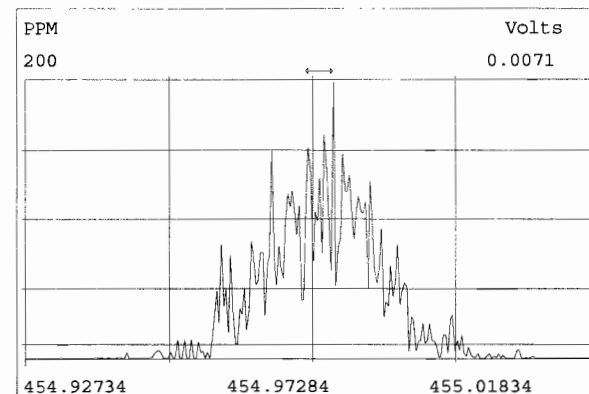
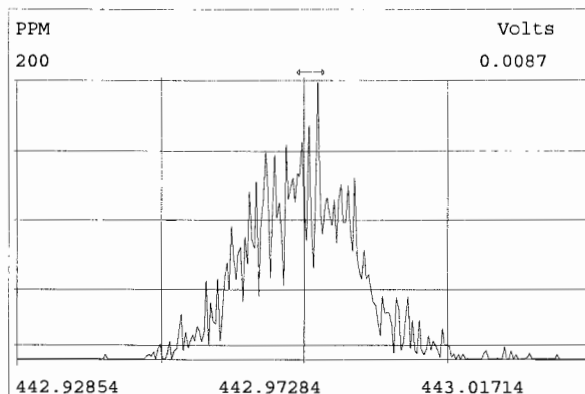
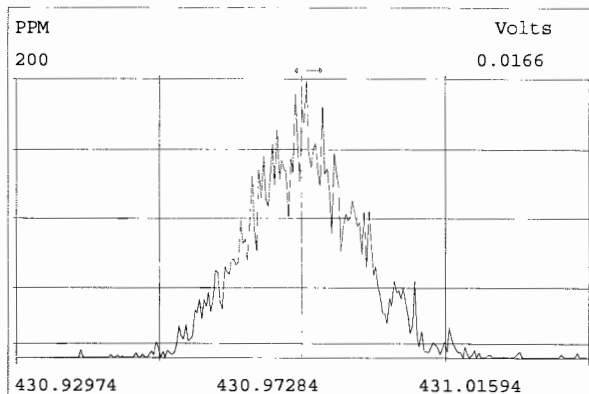
Peak Locate Examination:27-JUN-2019:16:45 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination:27-JUN-2019:16:46 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST190627D1-1

Reviewed By: C7 06/28/19
Initials & Date

End Calibration ID: NA

	Beg.	End
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
Concentrations within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TCDD/TCDF Valleys <25%	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<u>DB</u>	<u>DB</u>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<u>(Y)</u>	<u>N</u>
- Bottle position verified?	<u>DB</u>	<u>DB</u>

Mass resolution \geq

☐ 5k ☐ 6-8K ☐ 8K ☒ 10K
1614 1699 429 1613/1668/8280

Intergrated peaks display correctly?

GC Break <20%

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1
within 12 hours

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190627D1-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190627D1 S#1 Analysis Date: 27-JUN-19 Time: 16:58:02

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.82	0.65-0.89	y	11.9	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	55.6	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	53.2	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	y	52.6	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	y	50.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	48.4	43.0 - 58.0
OCDD	M+2/M+4	0.91	0.76-1.02	y	99.4	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	9.47	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	57.0	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	57.0	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	53.3	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	y	53.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	53.8	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	y	53.7	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88-1.20	y	54.7	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	y	52.7	43.0 - 58.0
OCDF	M+2/M+4	0.91	0.76-1.02	y	102	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 6/27/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.: .

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190627D1 S#1 Analysis Date: 27-JUN-19 Time: 16:58:02

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.72	0.65-0.89	y	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	90.8	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	y	98.5	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	97.8	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05-1.43	y	101	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	111	72.0 - 138.0
13C-OCDD	M/M+2	0.92	0.76-1.02	y	231	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.81	0.65-0.89	y	99.9	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	83.1	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	81.6	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	99.6	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	102	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	103	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	103	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.46	0.37-0.51	y	108	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.45	0.37-0.51	y	110	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	y	220	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.60	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 6/27/19

FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 5-10-19

RT Window Data Filename: 190627D1 S#1 Analysis Date: 27-JUN-19 Time: 16:58:02

ZB-5MS IS Data Filename: 190627D1 S#1 Analysis Date: 27-JUN-19 Time: 16:58:02

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:39	1,3,6,8-TCDF (F)	20:31
1,2,8,9-TCDD (L)	26:53	1,2,8,9-TCDF (L)	27:03
1,2,4,7,9-PeCDD (F)	28:28	1,3,4,6,8-PeCDF (F)	26:58
1,2,3,8,9-PeCDD (L)	30:52	1,2,3,8,9-PeCDF (L)	31:07
1,2,4,6,7,9-HxCDD (F)	32:15	1,2,3,4,6,8-HxCDF (F)	31:44
1,2,3,7,8,9-HxCDD (L)	34:12	1,2,3,7,8,9-HxCDF (L)	34:37
1,2,3,4,6,7,9-HpCDD (F)	36:48	1,2,3,4,6,7,8-HpCDF (F)	36:25
1,2,3,4,6,7,8-HpCDD (L)	37:39	1,2,3,4,7,8,9-HpCDF (L)	38:13

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DBDate: 6/27/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190627D1 S#1 Analysis Date: 27-JUN-19 Time: 16:58:02

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.199	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.153	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.189	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.024	0.989-1.052

Analyst: DBDate: 6/27/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190627D1 S#1 Analysis Date: 27-JUN-19 Time: 16:58:02

NATIVE ANALYTES	RETENTION TIME		RRT	QC LIMITS (1)
	REFERENCE			
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001	
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005	
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001	
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001	
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001	
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004	
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004	
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001	
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001	
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001	
OCDD	13C-OCDD	1.000	0.999-1.001	
OCDF	13C-OCDF	1.000	0.999-1.001	

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.147	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 6/27/19

Client ID: 1613 CS3 19C2204

Filename: 190627D1

S:1

Acq:27-JUN-19 16:58:02

ConCal: ST190627D1-1

Page 1 of 1

Lab ID: ST190627D1-1

GC Column ID: ZB-5MS

ICal: 1613VG7-5-10-19

wt/vol: 1.000

EndCAL: NA

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	1.13e+06	0.82 y	0.90	26:02	11.923		* 2.5		*
	1,2,3,7,8-PeCDD	4.08e+06	0.64 y	0.87	30:30	55.578		* 2.5		*
	1,2,3,4,7,8-HxCDD	4.09e+06	1.29 y	1.05	33:48	53.164		* 2.5		*
	1,2,3,6,7,8-HxCDD	4.43e+06	1.19 y	0.93	33:54	52.634		* 2.5		*
	1,2,3,7,8,9-HxCDD	4.37e+06	1.23 y	0.96	34:12	50.429		* 2.5		*
	1,2,3,4,6,7,8-HpCDD	4.01e+06	1.04 y	0.99	37:39	48.365		* 2.5		*
	OCDD	7.77e+06	0.91 y	0.99	40:55	99.434		* 2.5		*
	2,3,7,8-TCDF	1.54e+06	0.78 y	0.94	25:16	9.4657		* 2.5		*
	1,2,3,7,8-PeCDF	6.84e+06	1.58 y	0.92	29:20	56.958		* 2.5		*
	2,3,4,7,8-PeCDF	6.84e+06	1.59 y	0.96	30:14	57.001		* 2.5		*
	1,2,3,4,7,8-HxCDF	5.78e+06	1.22 y	1.15	32:54	53.347		* 2.5		*
	1,2,3,6,7,8-HxCDF	6.36e+06	1.27 y	1.04	33:02	53.312		* 2.5		*
	2,3,4,6,7,8-HxCDF	6.39e+06	1.23 y	1.10	33:38	53.766		* 2.5		*
	1,2,3,7,8,9-HxCDF	5.42e+06	1.25 y	1.03	34:37	53.696		* 2.5		*
	1,2,3,4,6,7,8-HpCDF	5.58e+06	1.07 y	1.06	36:25	54.721		* 2.5		*
	1,2,3,4,7,8,9-HpCDF	4.93e+06	1.05 y	1.23	38:13	52.733		* 2.5		*
	OCDF	9.04e+06	0.91 y	0.94	41:09	101.66		* 2.5		*
IS	13C-2,3,7,8-TCDD	1.06e+07	0.72 y	1.11	26:00	100.55				
IS	13C-1,2,3,7,8-PeCDD	8.42e+06	0.62 y	0.98	30:29	90.808				
IS	13C-1,2,3,4,7,8-HxCDD	7.32e+06	1.30 y	0.68	33:46	98.532				
IS	13C-1,2,3,6,7,8-HxCDD	9.05e+06	1.29 y	0.84	33:53	97.774				
IS	13C-1,2,3,7,8,9-HxCDD	9.01e+06	1.28 y	0.81	34:12	100.90				
IS	13C-1,2,3,4,6,7,8-HpCDD	8.39e+06	1.05 y	0.69	37:39	111.16				
IS	13C-OCDD	1.59e+07	0.92 y	0.62	40:54	230.58				
IS	13C-2,3,7,8-TCDF	1.72e+07	0.81 y	1.05	25:15	99.878				
IS	13C-1,2,3,7,8-PeCDF	1.30e+07	1.58 y	0.95	29:20	83.051				
IS	13C-2,3,4,7,8-PeCDF	1.25e+07	1.58 y	0.94	30:13	81.634				
IS	13C-1,2,3,4,7,8-HxCDF	9.39e+06	0.51 y	0.86	32:54	99.579				
IS	13C-1,2,3,6,7,8-HxCDF	1.15e+07	0.52 y	1.02	33:01	102.18				
IS	13C-2,3,4,6,7,8-HxCDF	1.08e+07	0.52 y	0.95	33:37	103.41				
IS	13C-1,2,3,7,8,9-HxCDF	9.80e+06	0.52 y	0.87	34:36	102.72				
IS	13C-1,2,3,4,6,7,8-HpCDF	9.58e+06	0.46 y	0.81	36:24	107.66				
IS	13C-1,2,3,4,7,8,9-HpCDF	7.62e+06	0.45 y	0.63	38:12	109.59				
IS	13C-OCDF	1.89e+07	0.89 y	0.78	41:08	219.83				
C/Up	37Cl-2,3,7,8-TCDD	1.11e+06		1.22	26:02	9.5971				
RS/RT	13C-1,2,3,4-TCDD	9.50e+06	0.77 y	1.00	25:26	100.00				
RS	13C-1,2,3,4-TCDF	1.64e+07	0.81 y	1.00	24:01	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.10e+07	0.52 y	1.00	33:19	100.00				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	85.2	86.3		*	*
Total Penta-Dioxins	204	205		*	*
Total Hexa-Dioxins	229	230		*	*
Total Hepta-Dioxins	113	114		*	*
Total Tetra-Furans	35.6	36.7		*	*
Total Penta-Furans	245.71	247.75		*	*
Total Hexa-Furans	285	286		*	*
Total Hepta-Furans	109	110		*	*

Rec Qual

101

90.8

98.5

97.8

101

111

115

99.9

83.1

81.6

99.6

102

103

103

108

110

110

96.0

Integrations

by

Analyst: DB

Date: 6/27/19

Reviewed

by

Analyst: C7

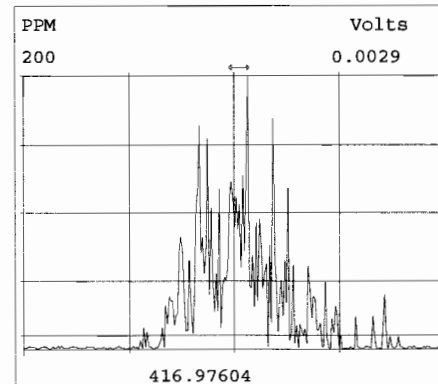
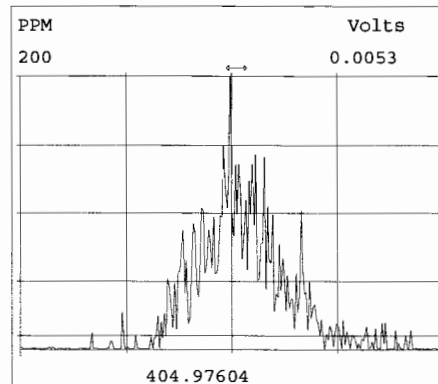
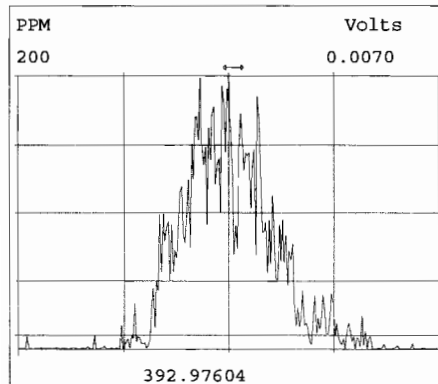
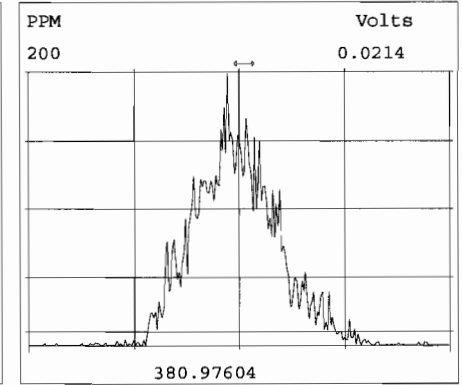
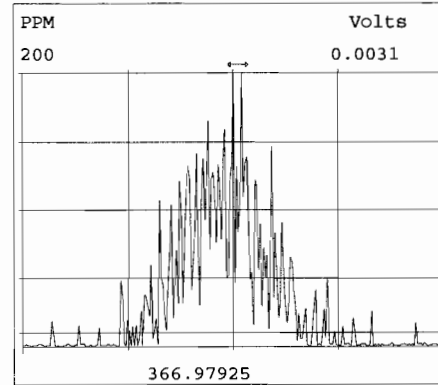
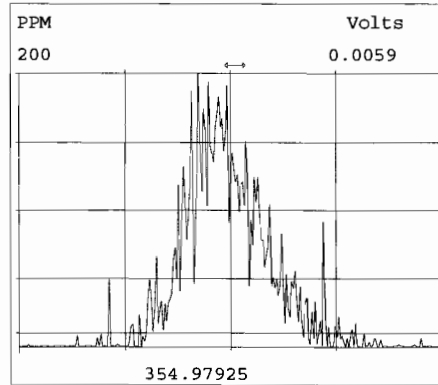
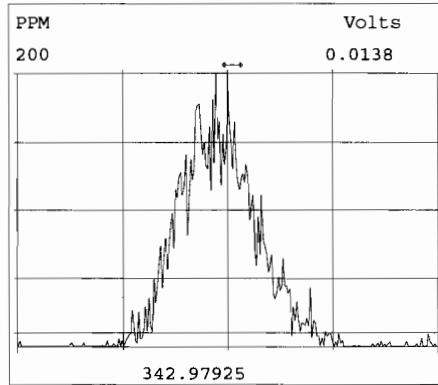
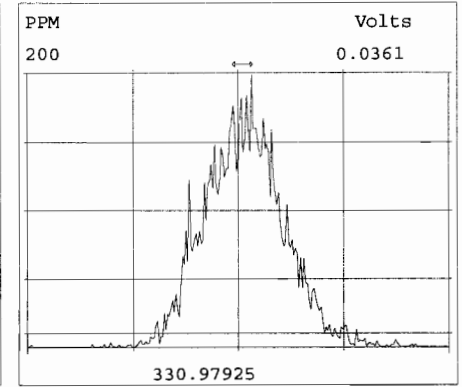
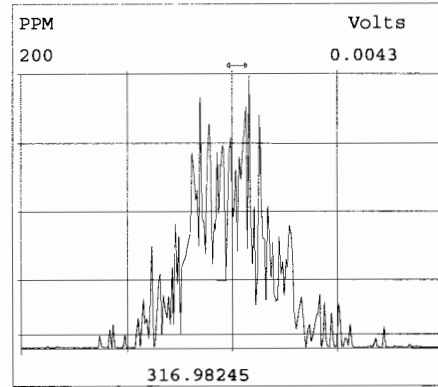
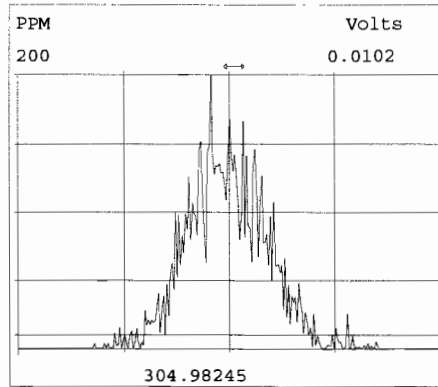
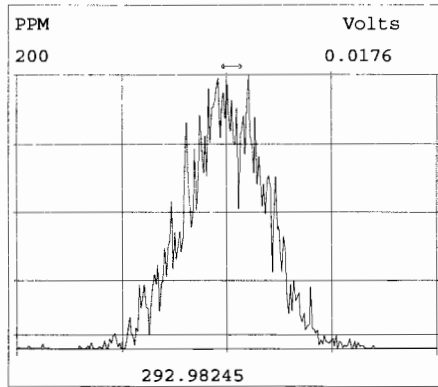
Date: 06/28/19

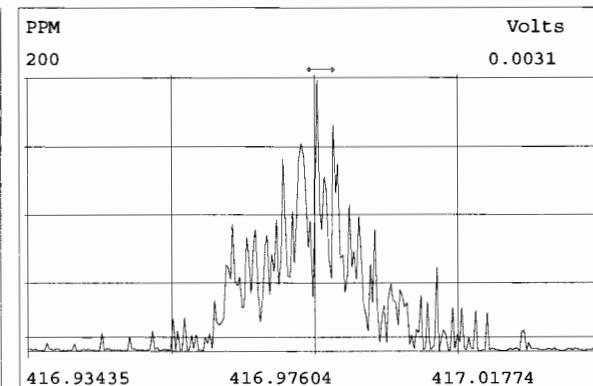
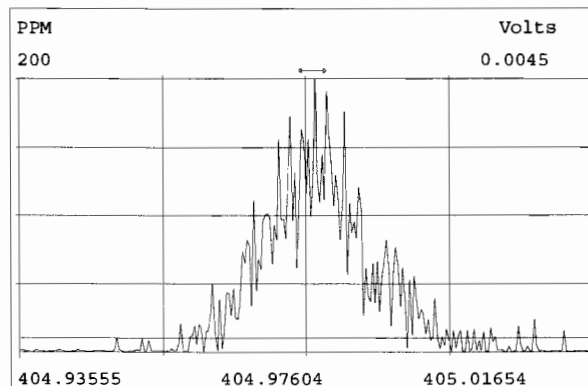
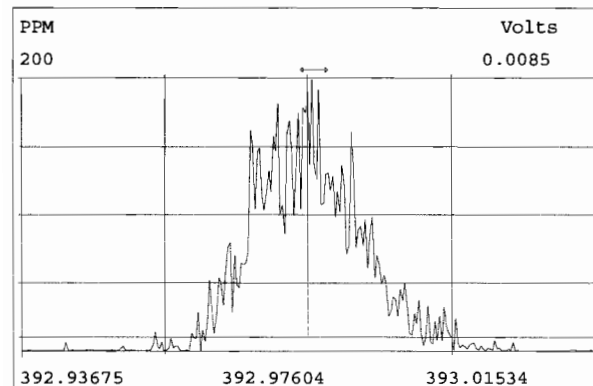
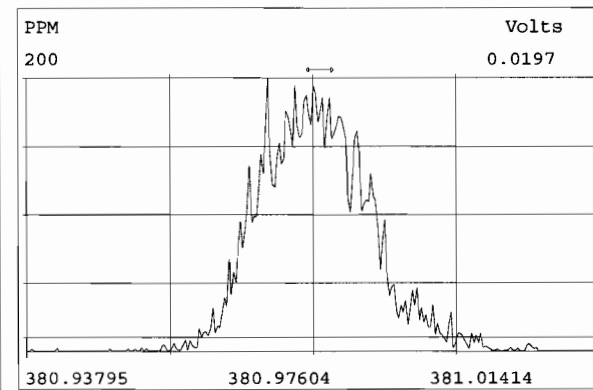
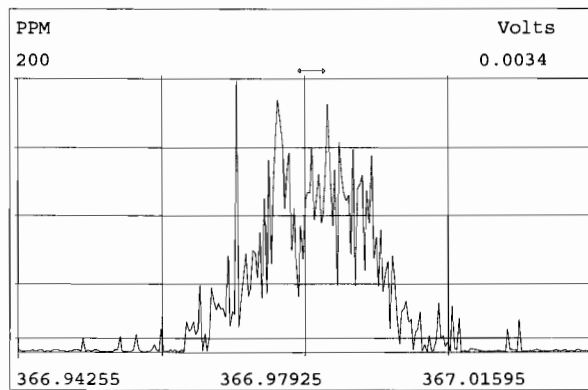
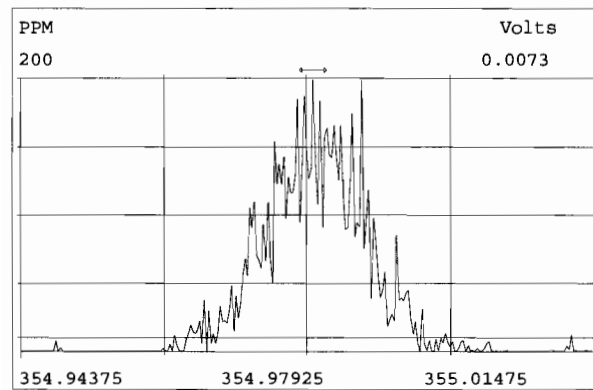
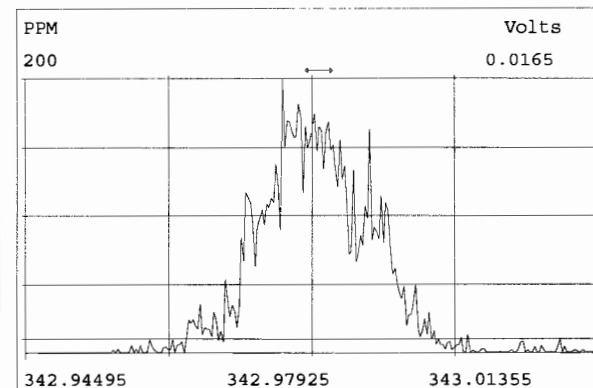
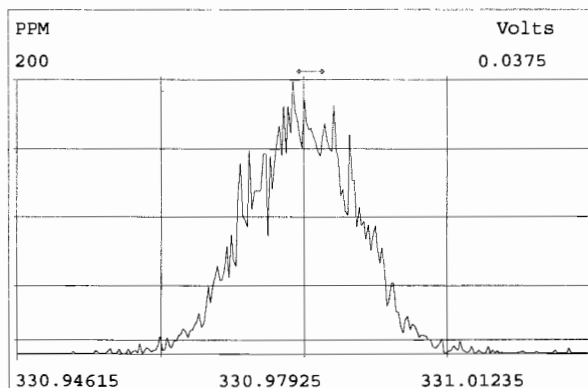
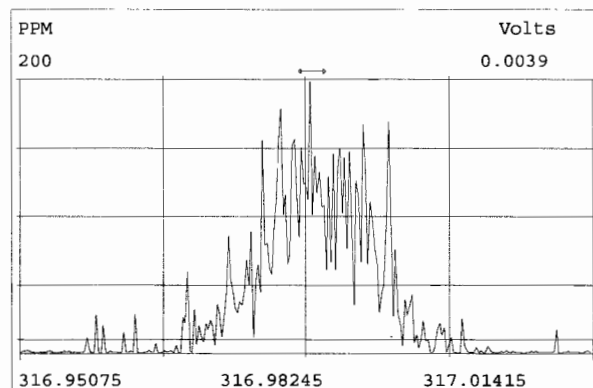
Date: 6/27/19

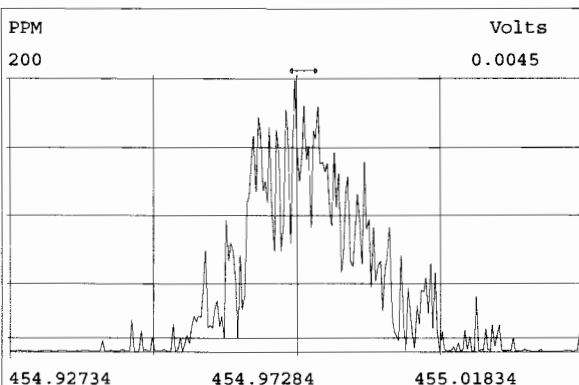
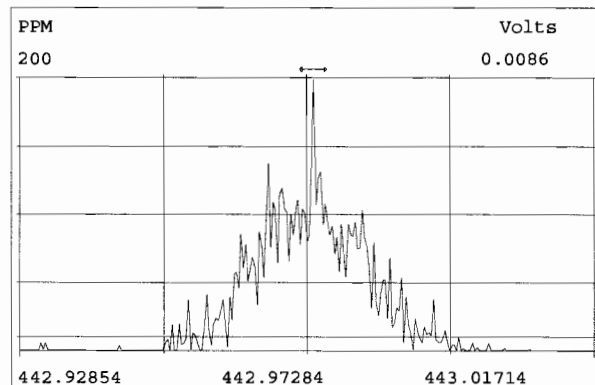
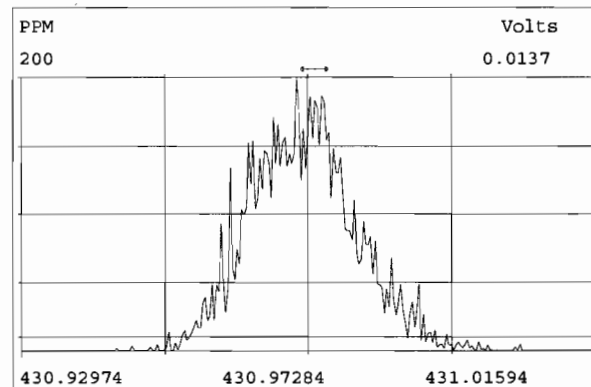
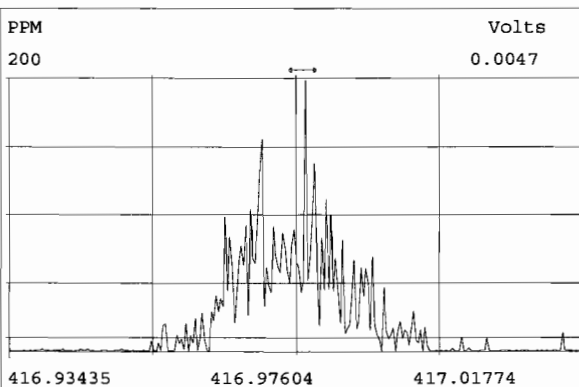
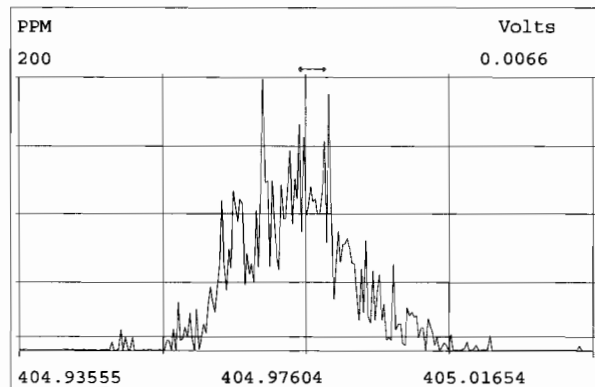
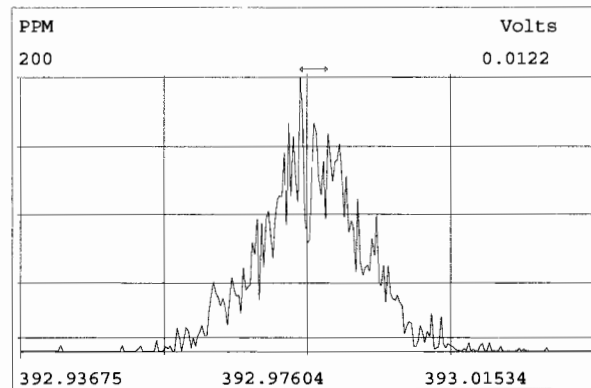
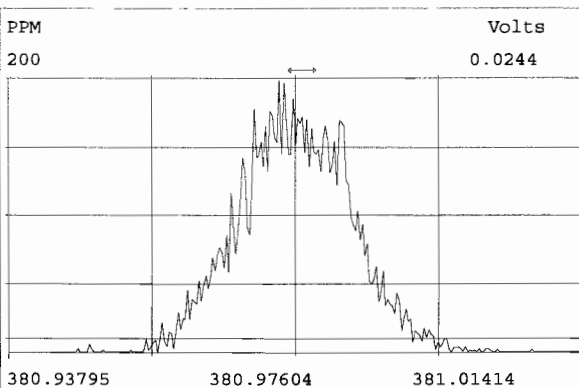
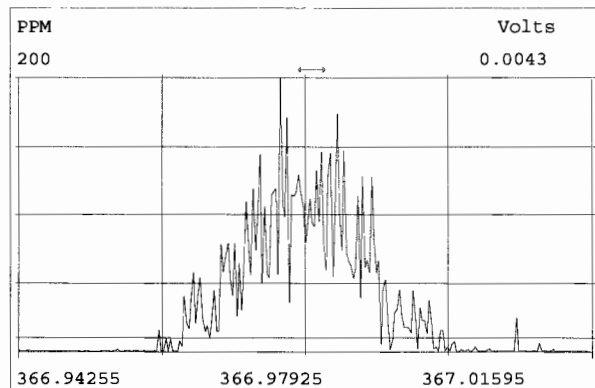
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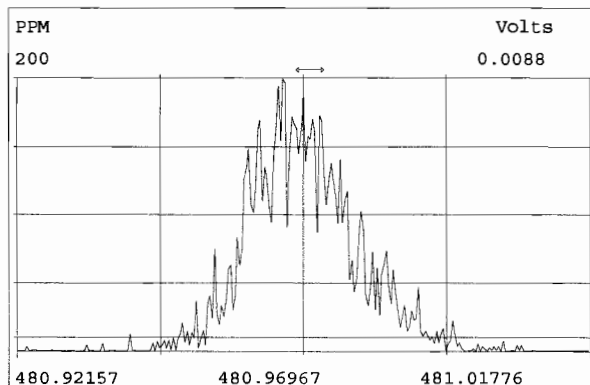
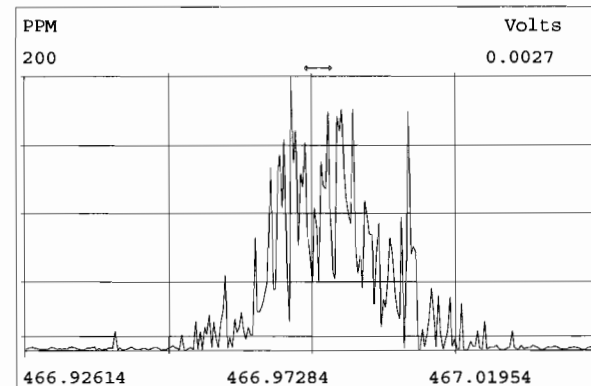
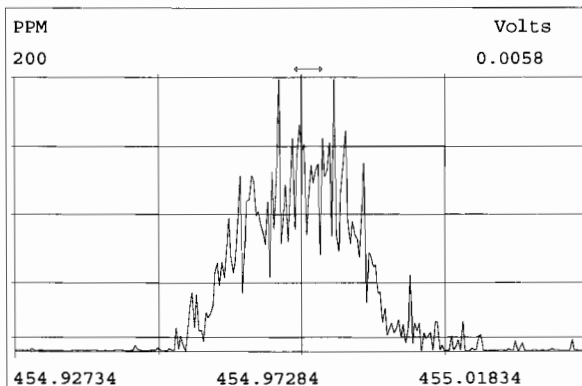
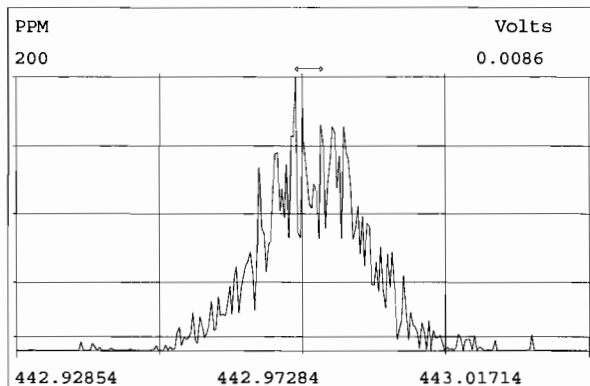
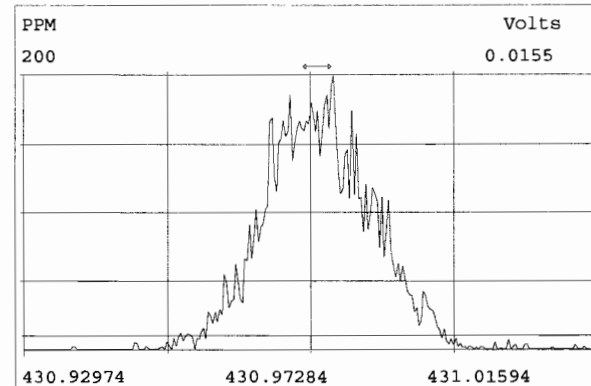
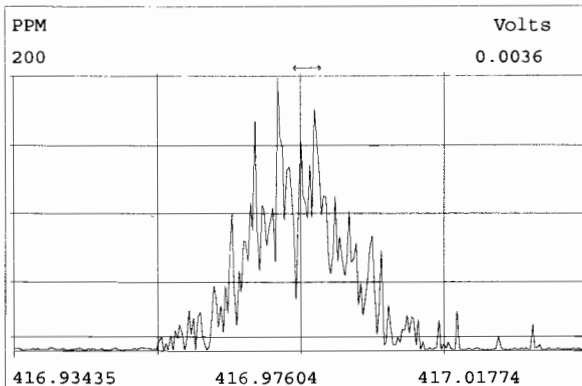
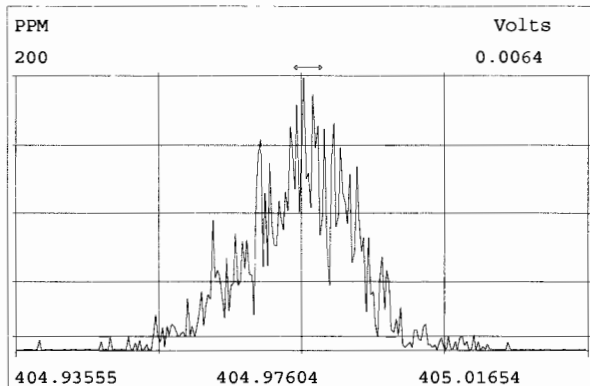
Vista Analytical Laboratory - Injection Log Run file: 190627D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190627D1	1	ST190627D1-1	DB	27-JUN-19	16:58:02	ST190627D1-1	NA
190627D1	2	B9F0234-BS1	DB	27-JUN-19	17:45:47	ST190627D1-1	NA
190627D1	3	B9F0238-BS1	DB	27-JUN-19	18:33:33	ST190627D1-1	NA
190627D1	4	SOLVENT BLANK	DB	27-JUN-19	19:21:09	ST190627D1-1	NA
190627D1	5	B9F0234-BLK1	DB	27-JUN-19	20:08:54	ST190627D1-1	NA
190627D1	6	B9F0238-BLK1	DB	27-JUN-19	20:56:30	ST190627D1-1	NA
190627D1	7	QC190627D1-1	DB	27-JUN-19	21:44:16	ST190627D1-1	NA
190627D1	8	QC190627D1-2	DB	27-JUN-19	22:31:51	ST190627D1-1	NA
190627D1	9	1901213-01RE1	DB	27-JUN-19	23:19:34	ST190627D1-1	NA
190627D1	10	1901608-01	DB	28-JUN-19	00:07:14	ST190627D1-1	NA
190627D1	11	1901248-03	DB	28-JUN-19	00:54:49	ST190627D1-1	NA
190627D1	12	1901246-06	DB	28-JUN-19	01:42:24	ST190627D1-1	NA
190627D1	13	1901246-07	DB	28-JUN-19	02:29:58	ST190627D1-1	NA
190627D1	14	1901246-08	DB	28-JUN-19	03:17:42	ST190627D1-1	NA
190627D1	15	1901246-09	DB	28-JUN-19	04:05:19	ST190627D1-1	NA

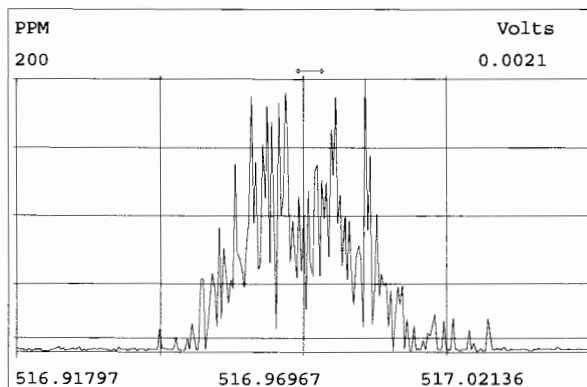
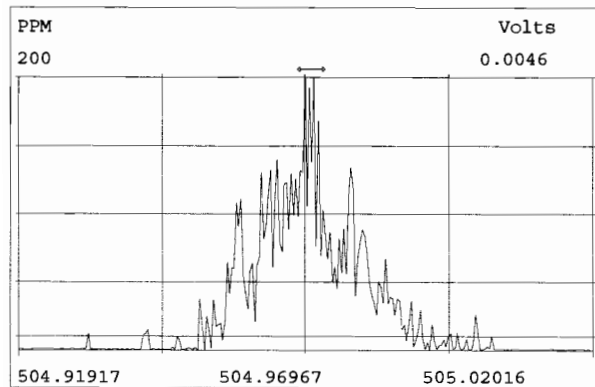
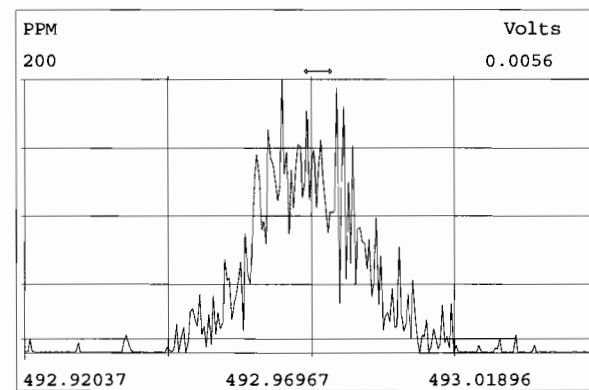
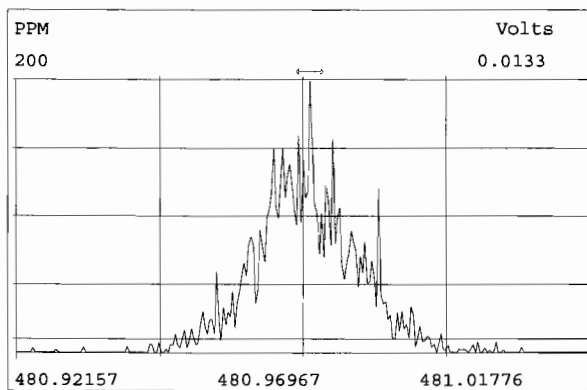
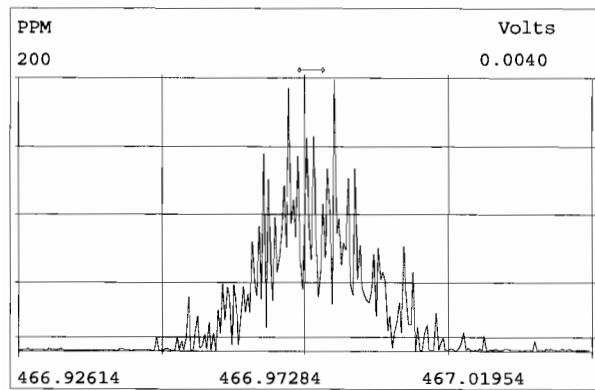
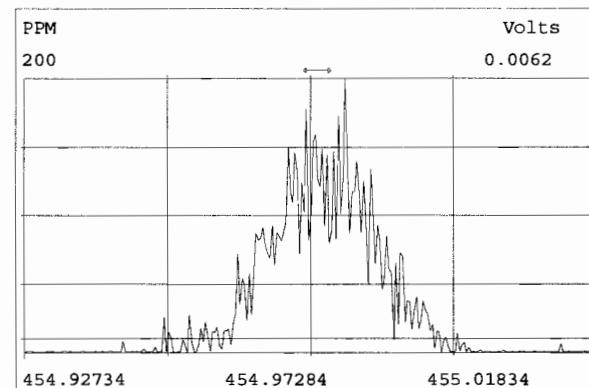
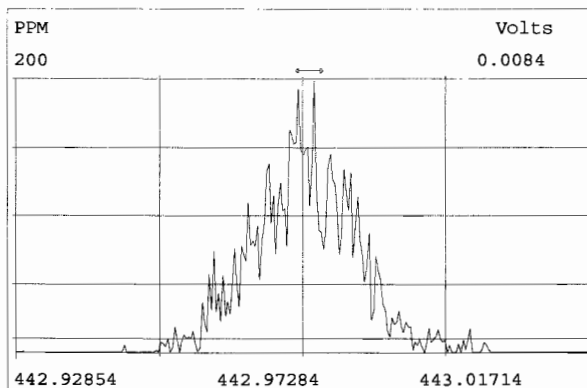
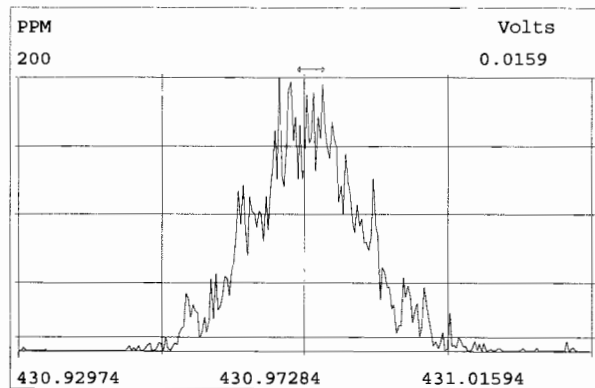




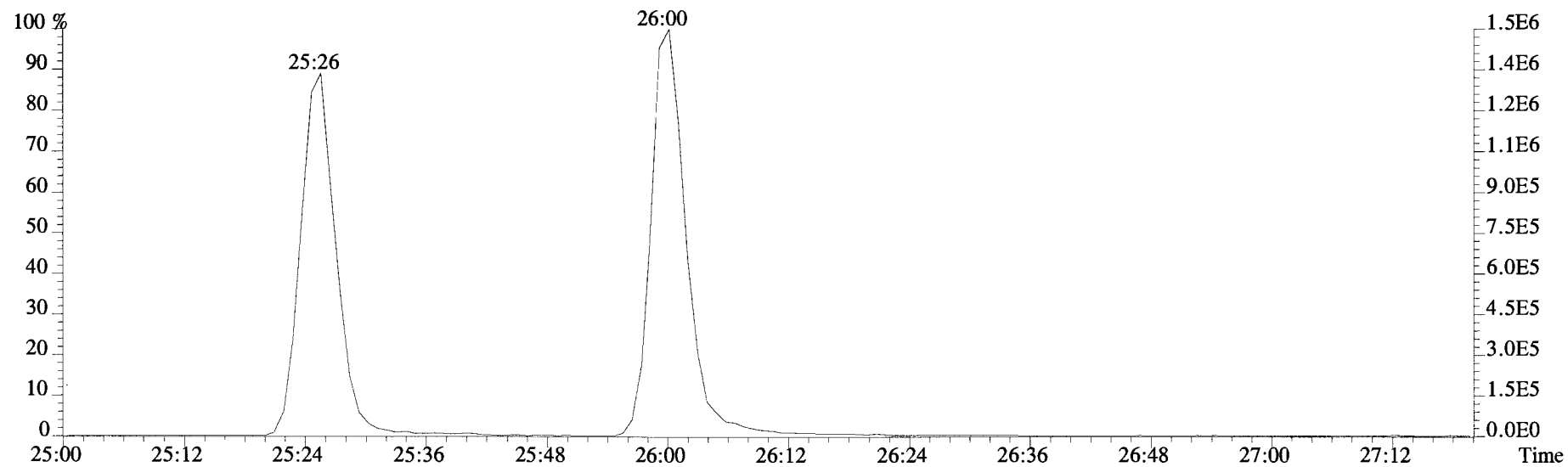
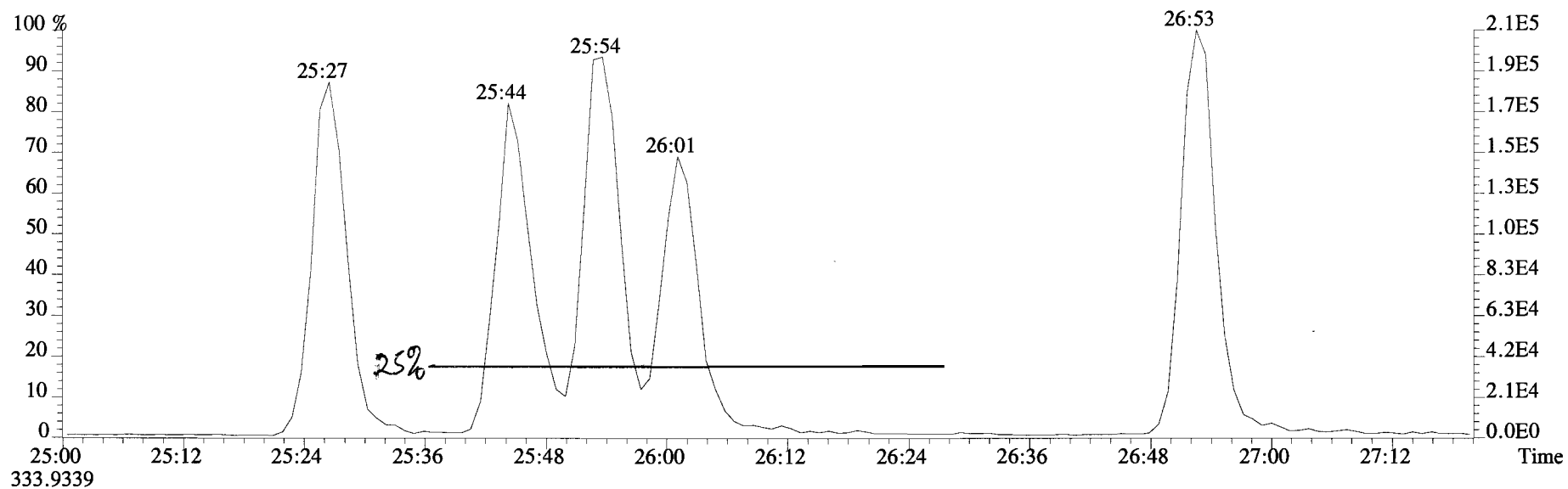




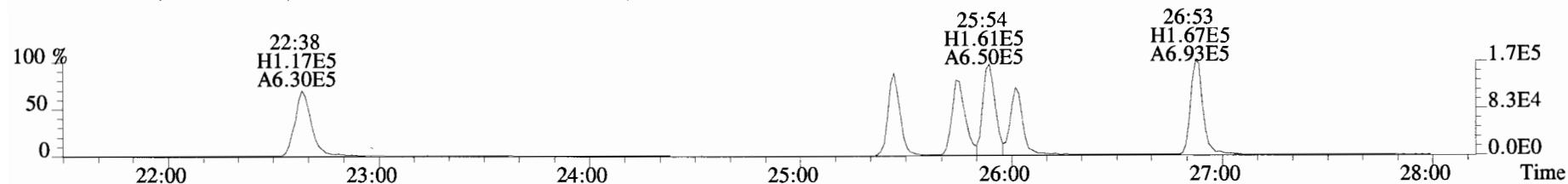
Experiment:OCDD_DB5 Function:5 Reference:PFK



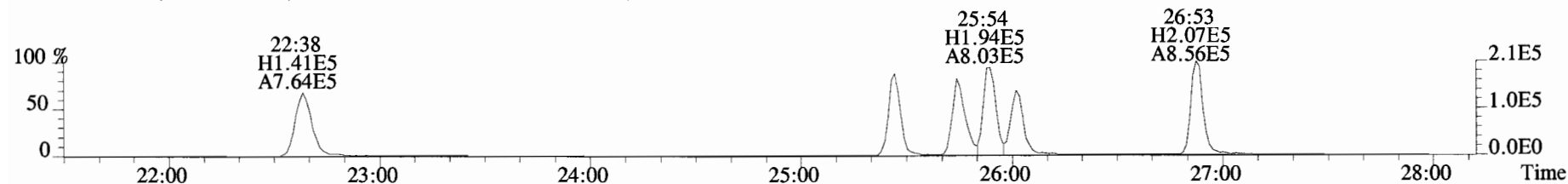
File:190627D1 #1-514 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



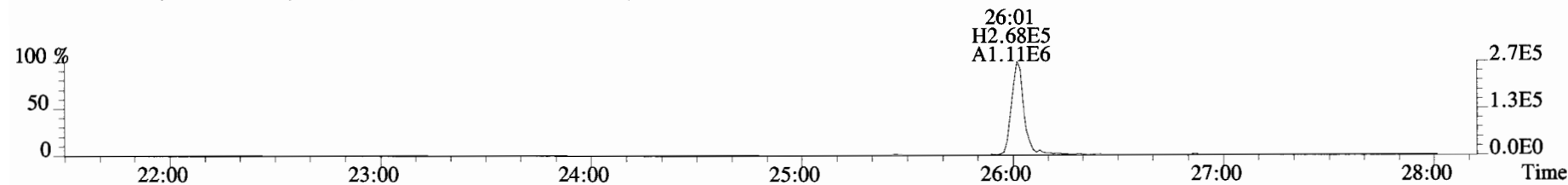
File:190627D1 #1-514 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



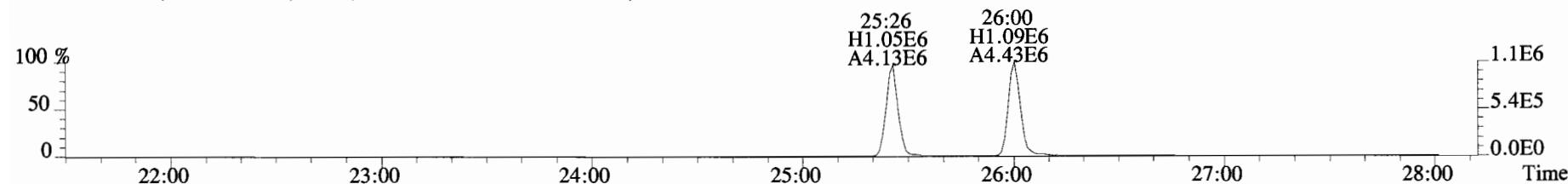
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



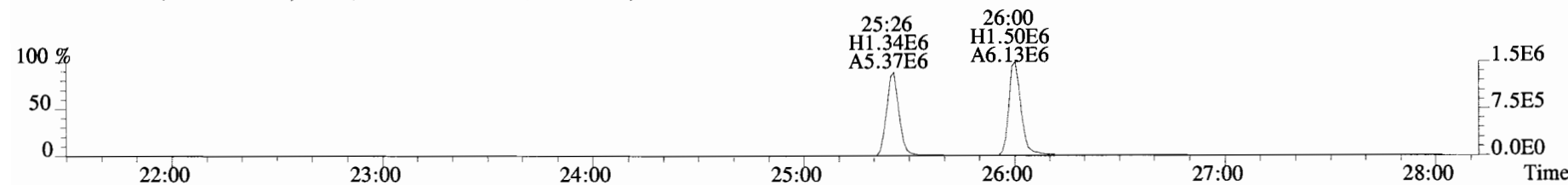
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



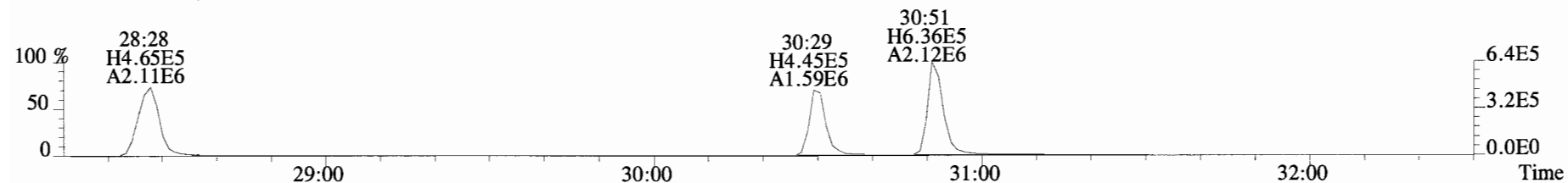
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



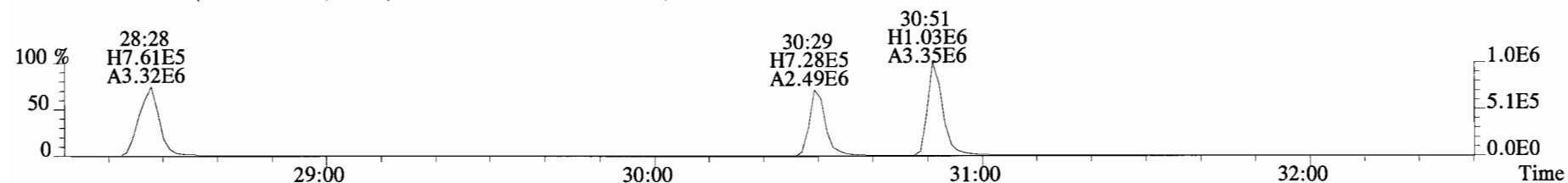
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



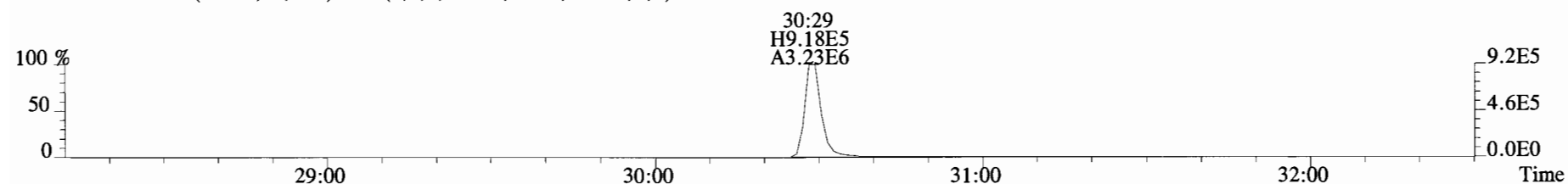
File:190627D1 #1-184 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



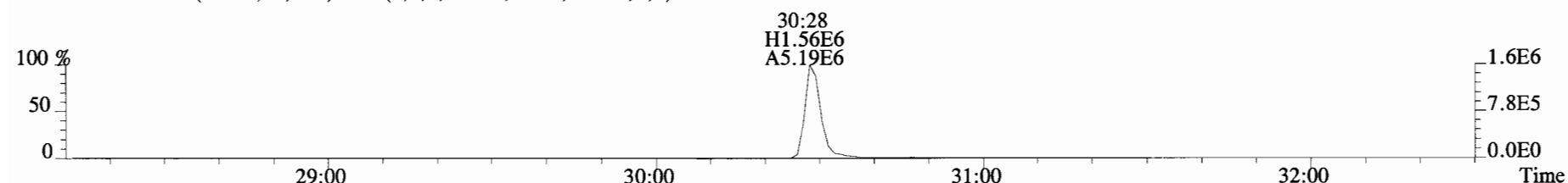
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



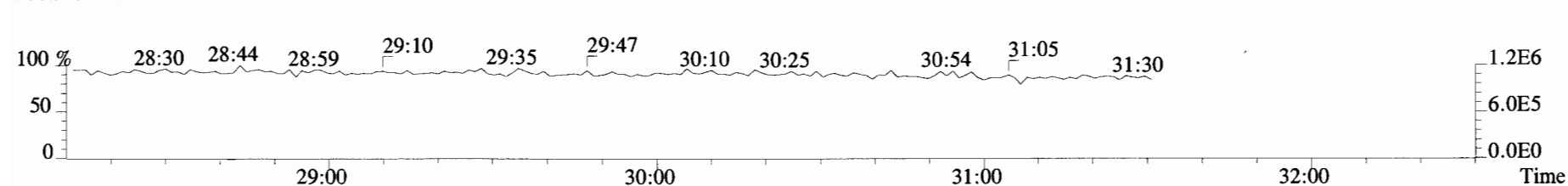
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



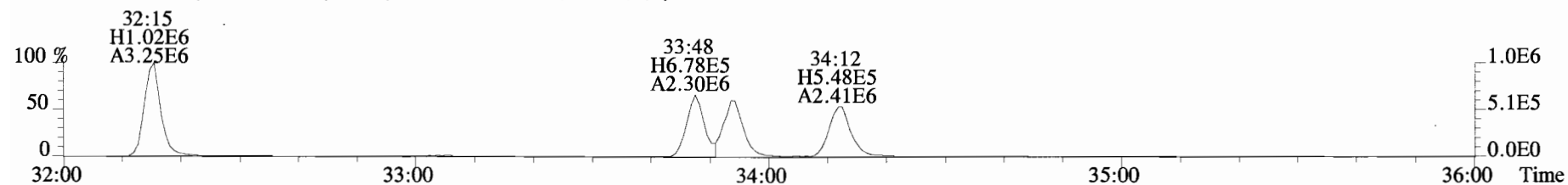
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



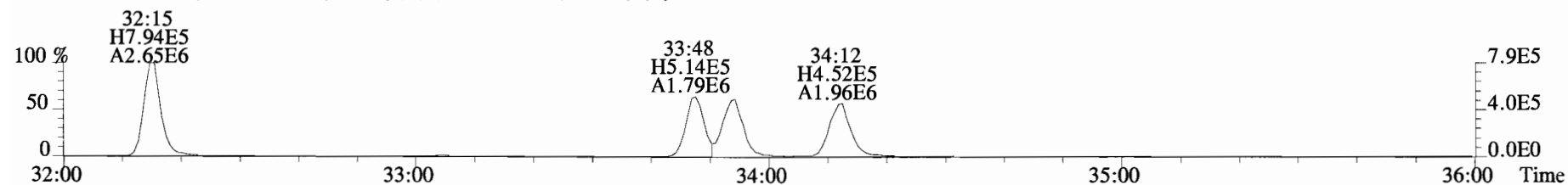
366.9792 F:2



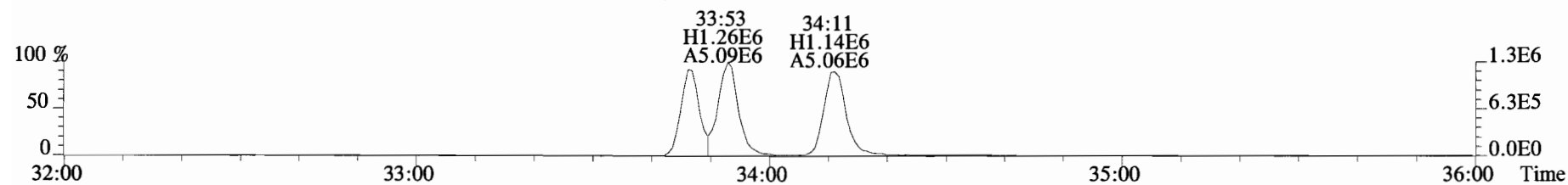
File:190627D1 #1-399 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



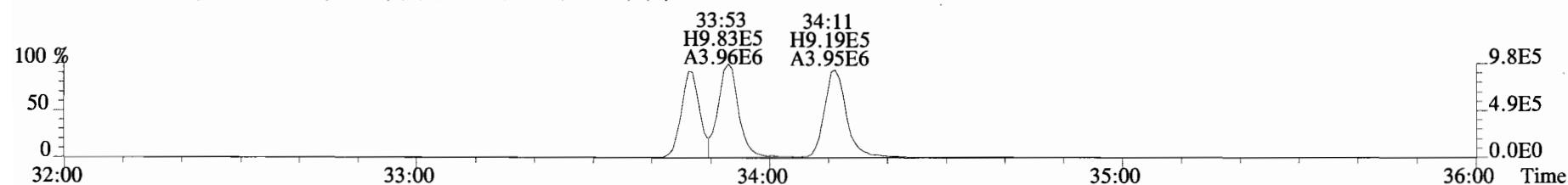
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



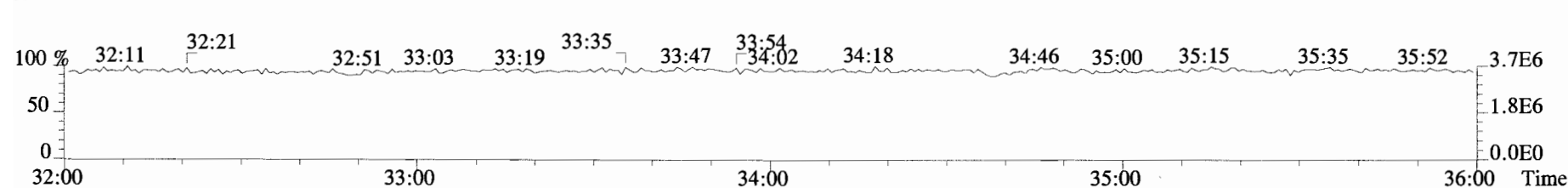
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



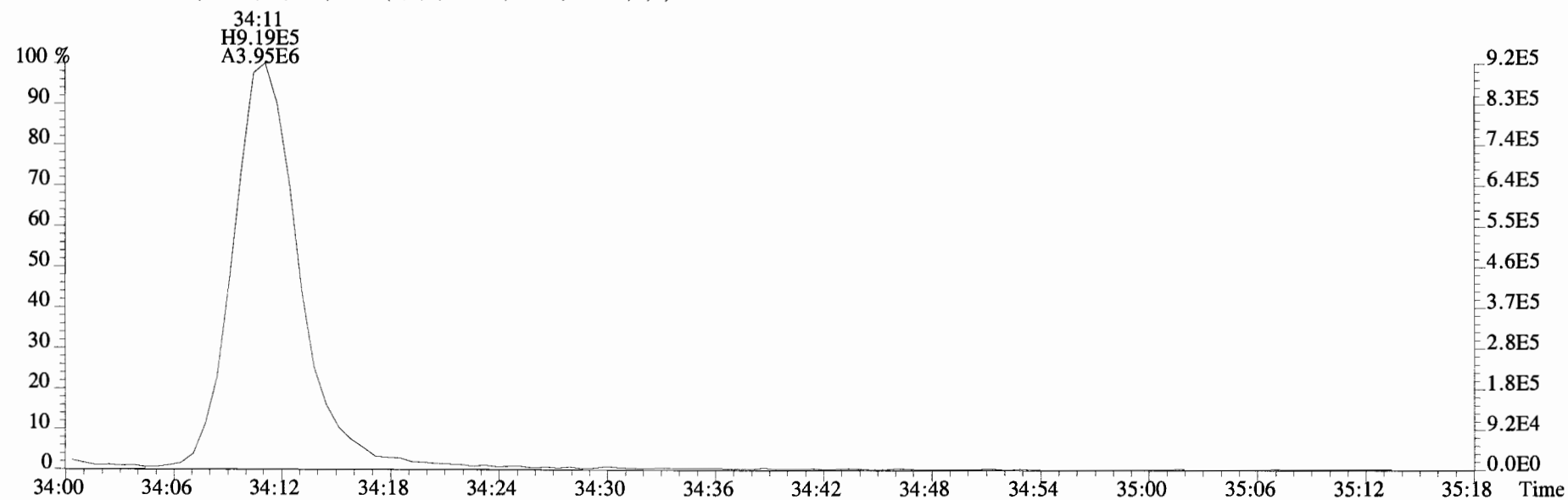
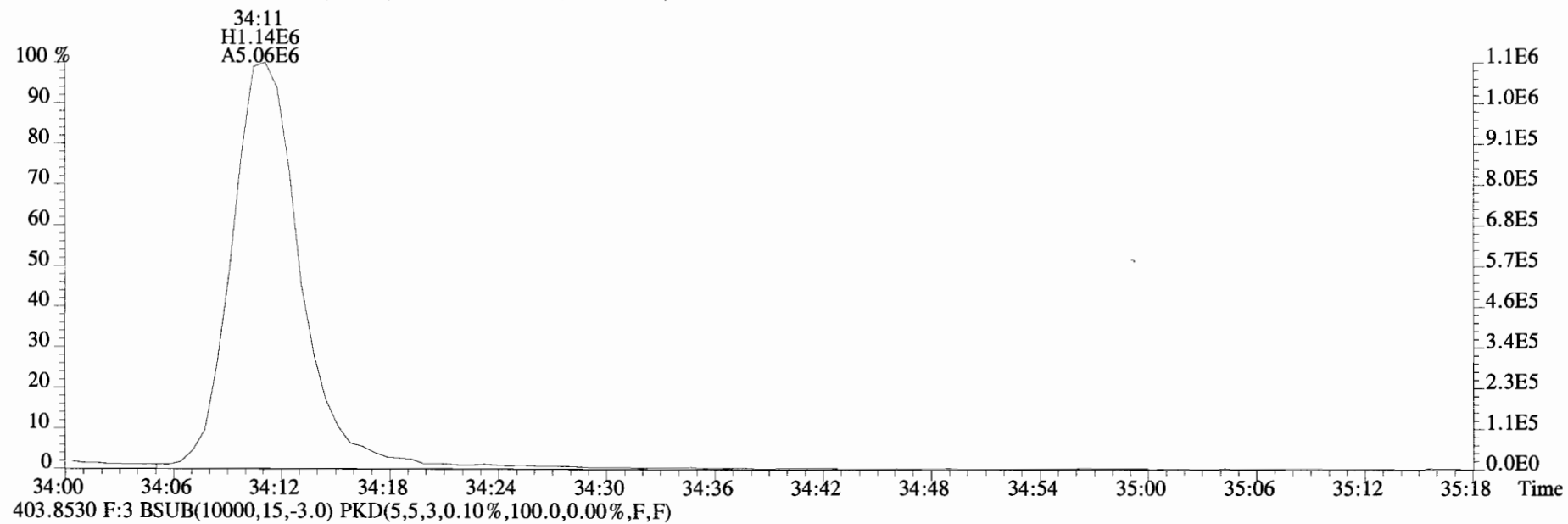
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



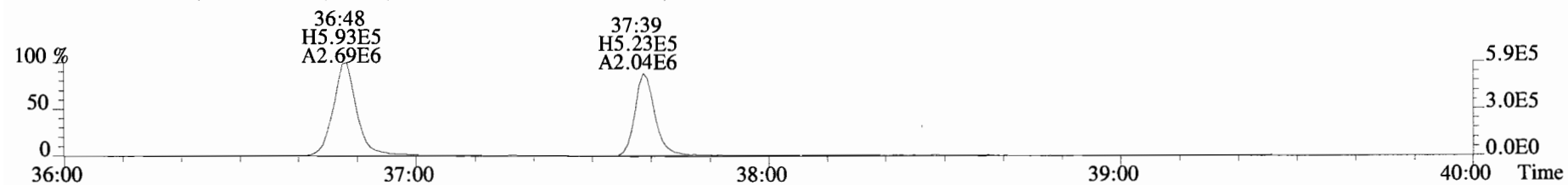
392.9760 F:3



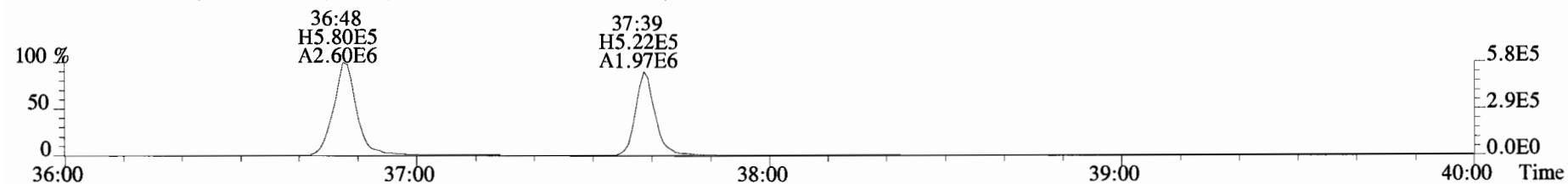
File:190627D1 #1-399 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



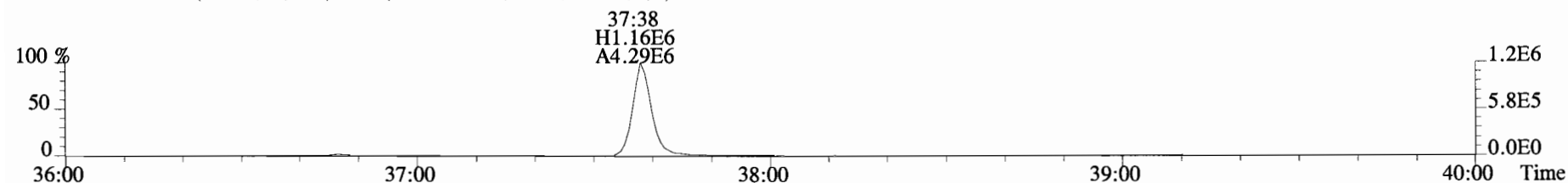
File:190627D1 #1-356 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



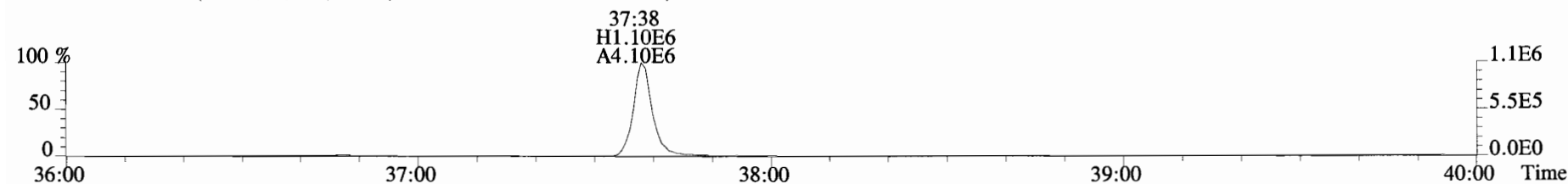
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



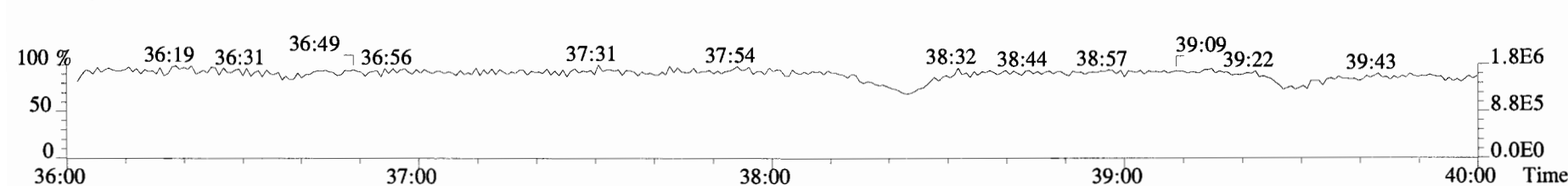
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



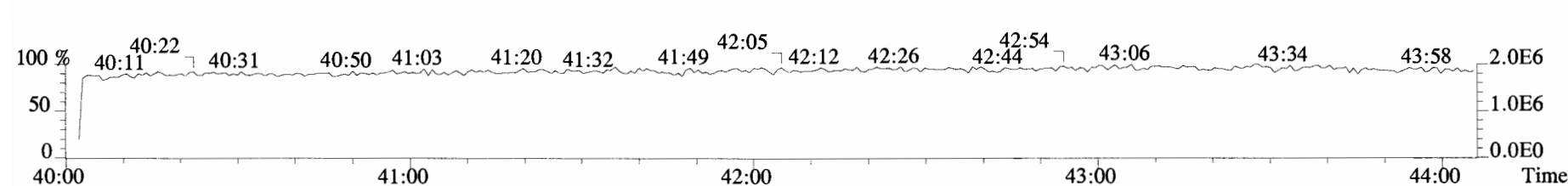
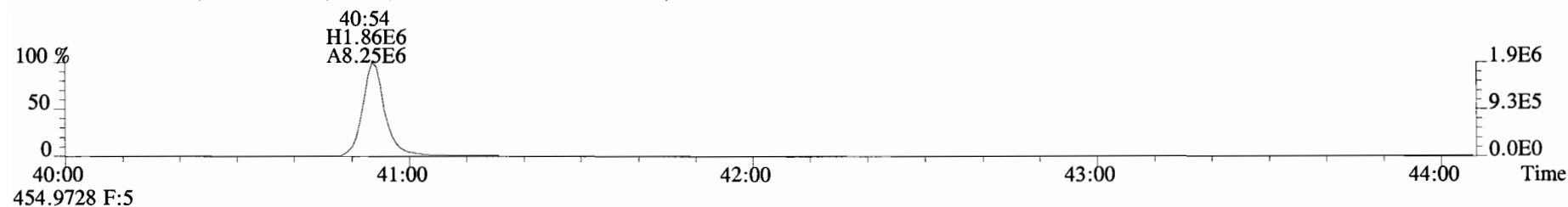
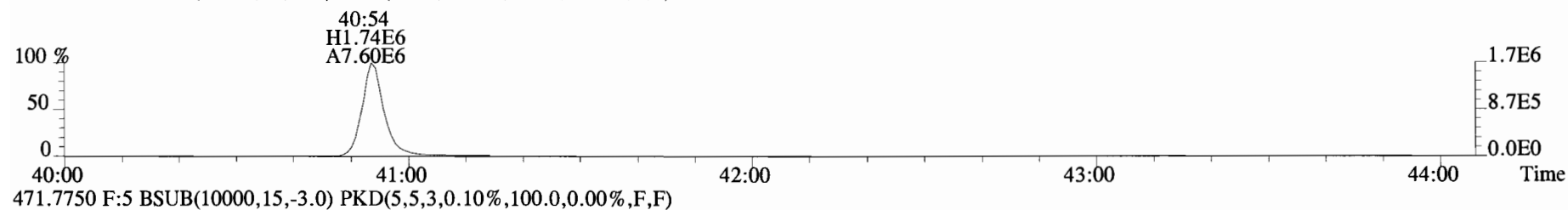
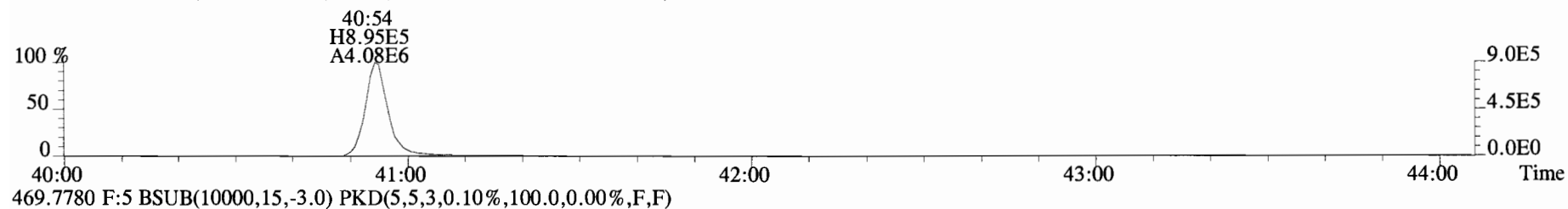
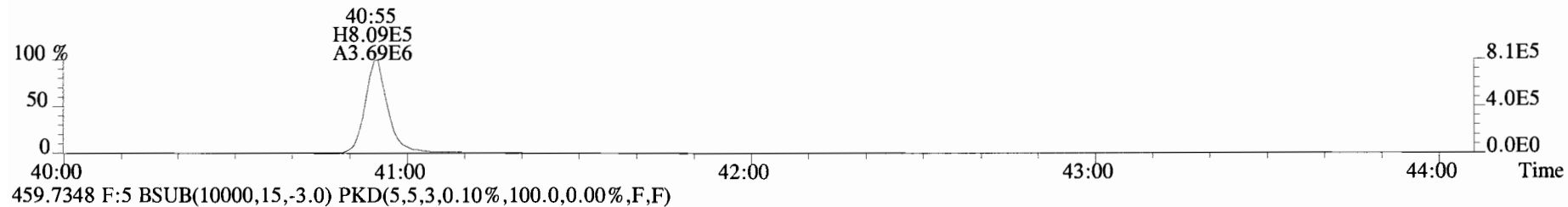
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



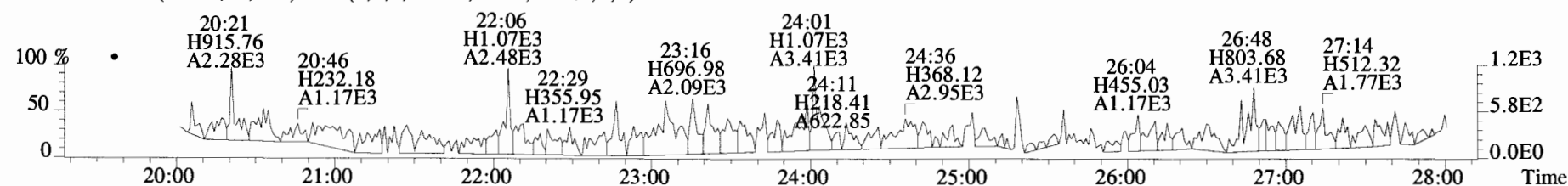
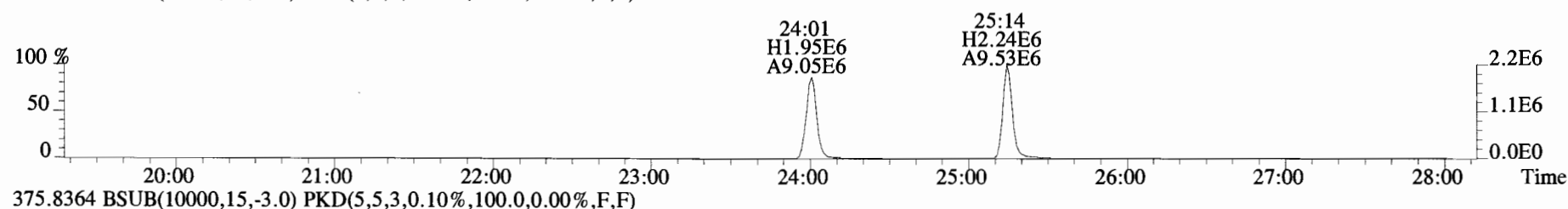
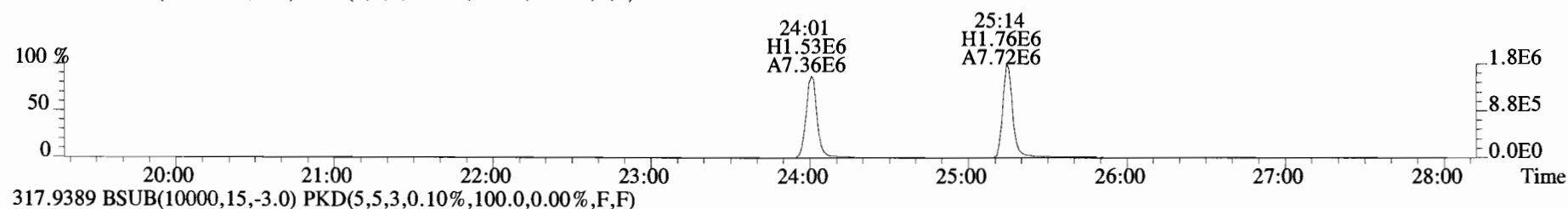
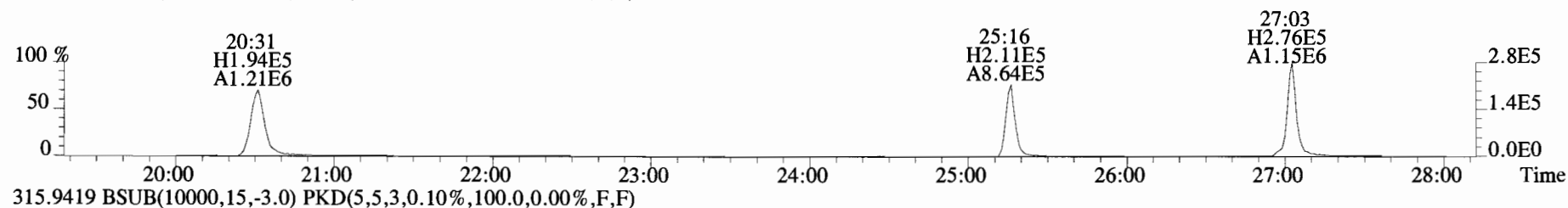
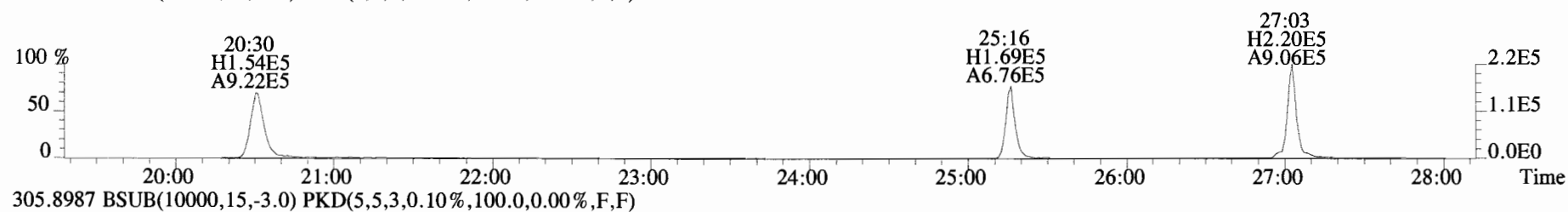
454.9728 F:4



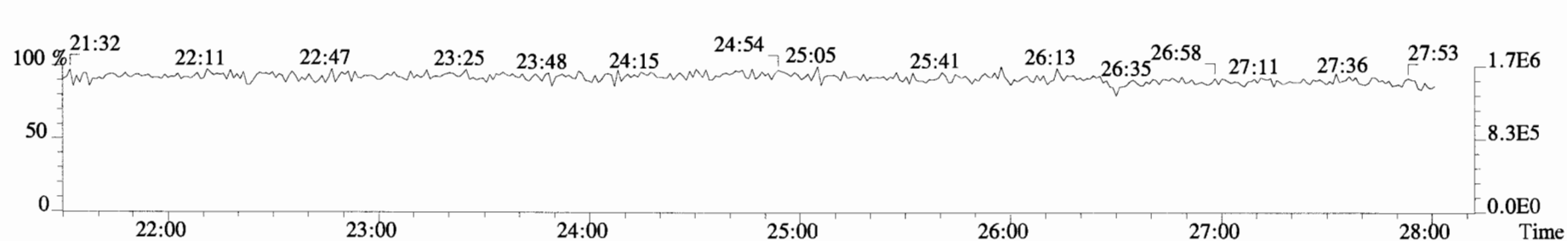
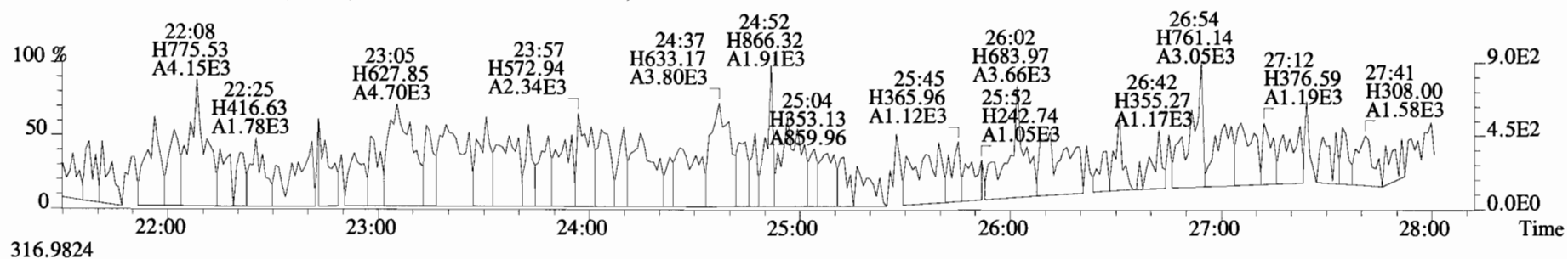
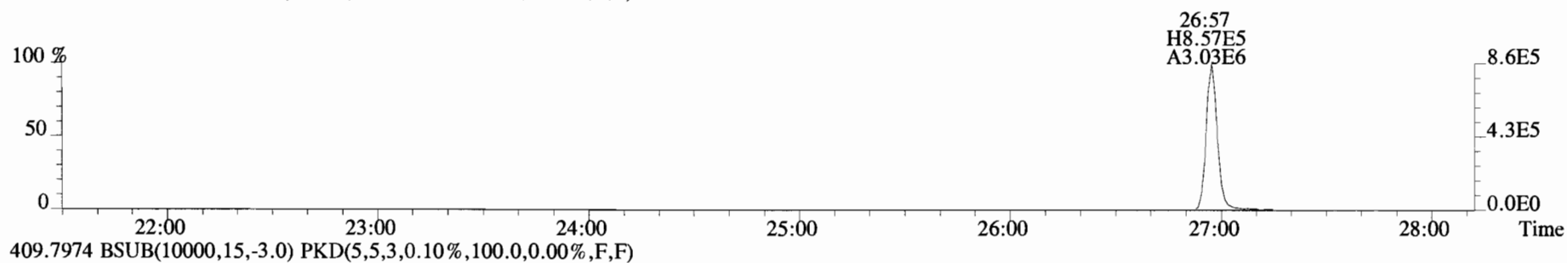
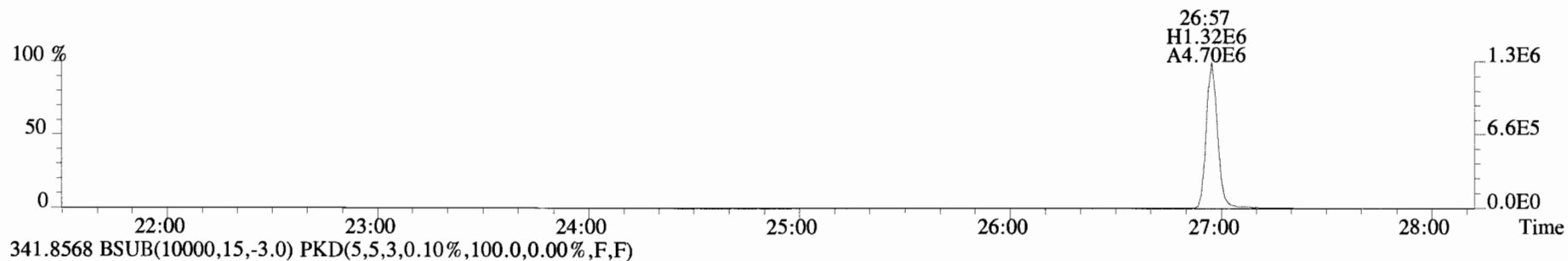
File:190627D1 #1-431 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



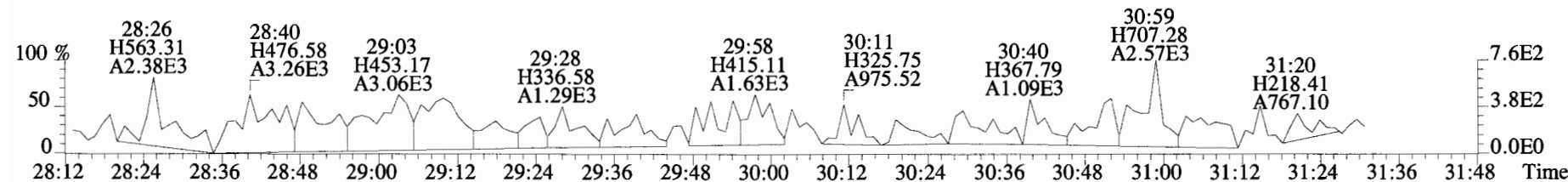
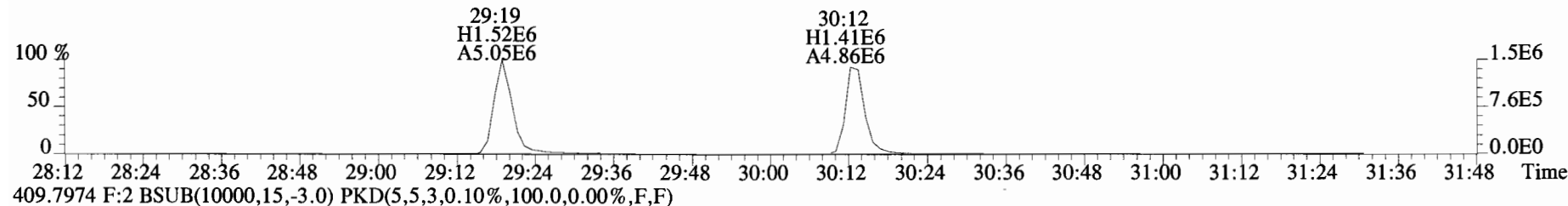
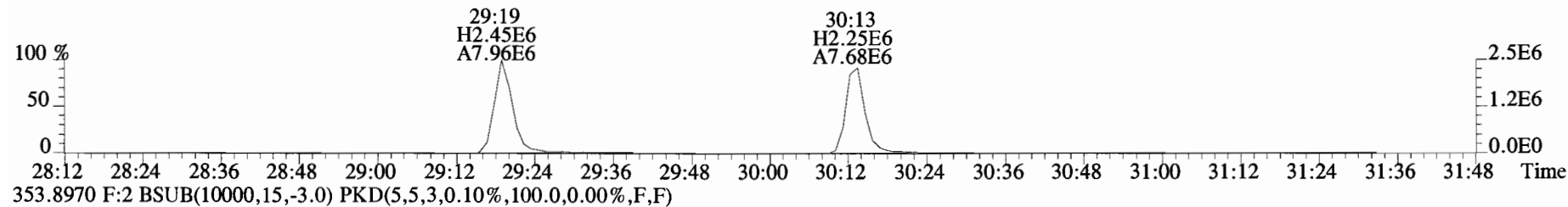
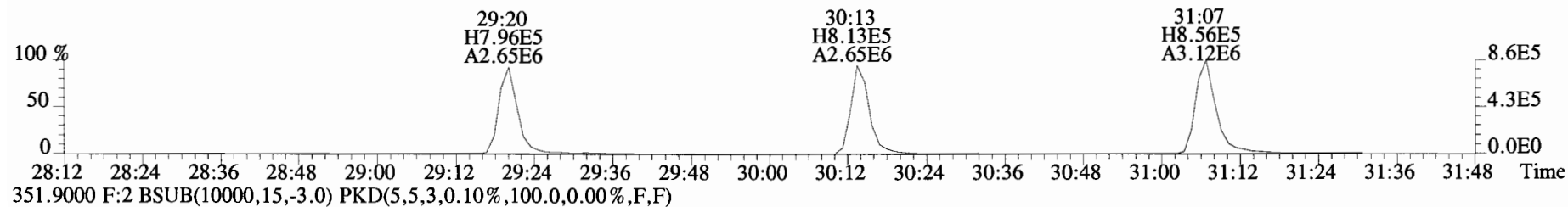
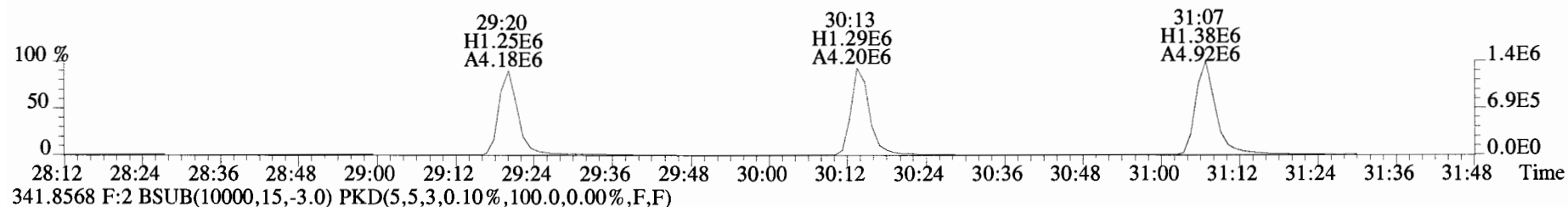
File:190627D1 #1-514 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



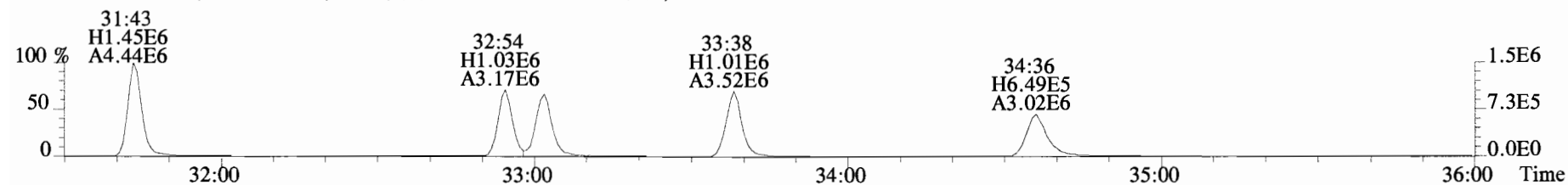
File:190627D1 #1-514 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



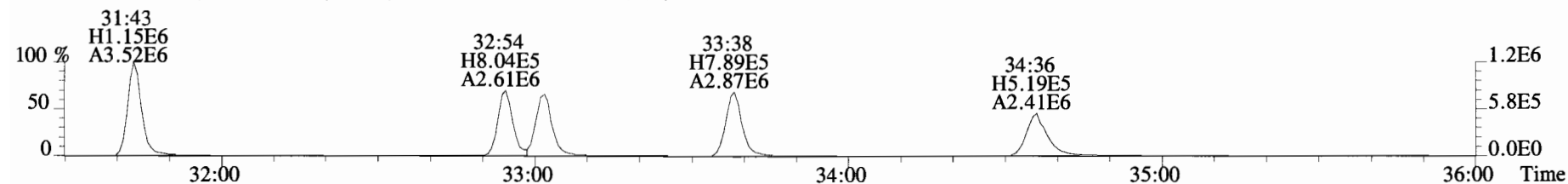
File:190627D1 #1-184 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage S1R Autospec-UltimaE
 Sample#1 File Text: Vista Analytical Laboratory_VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



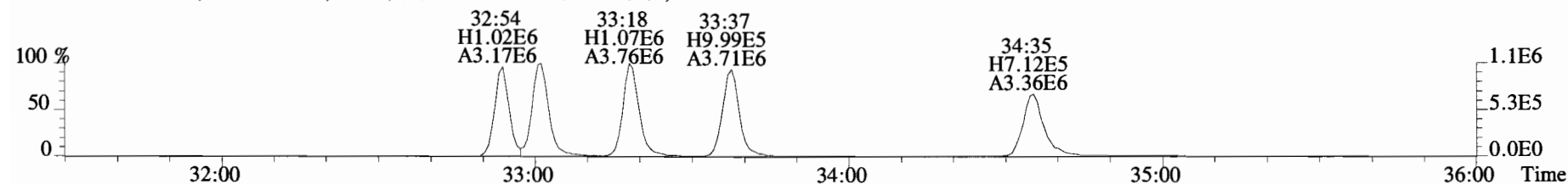
File:190627D1 #1-399 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



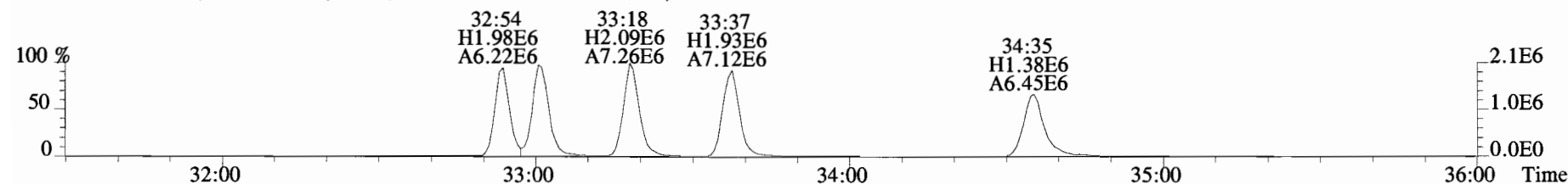
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



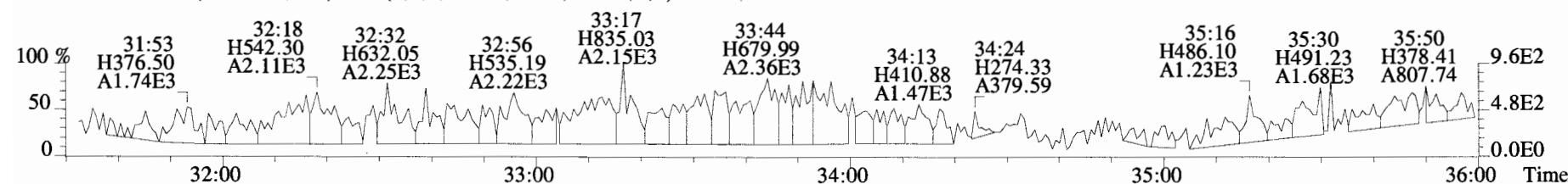
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



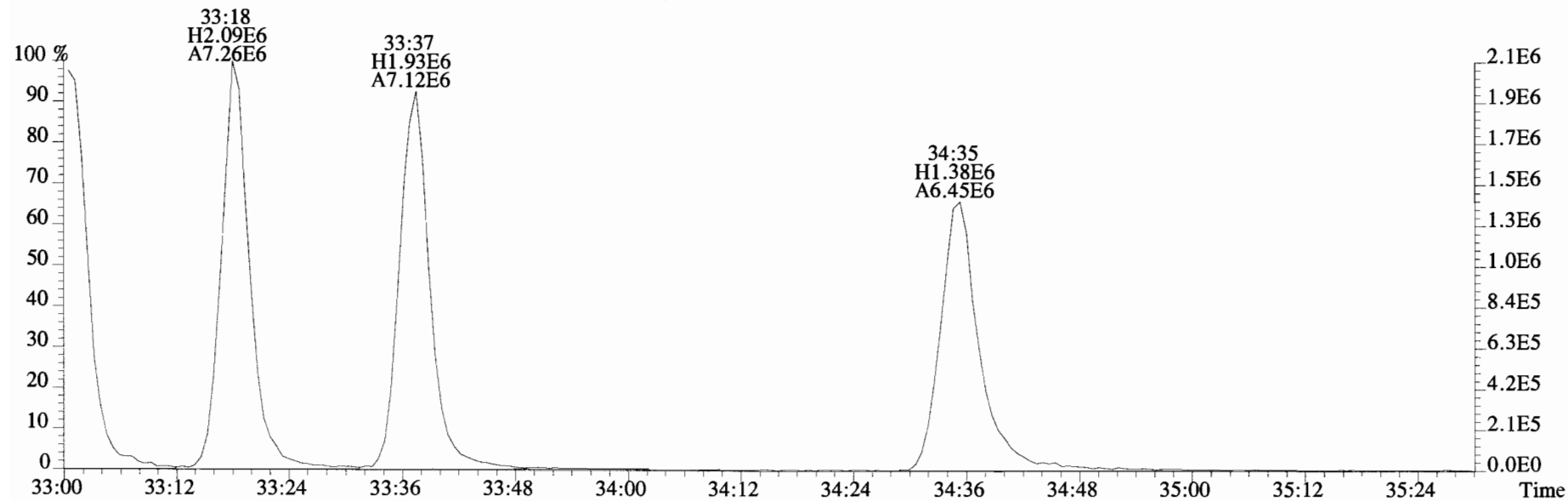
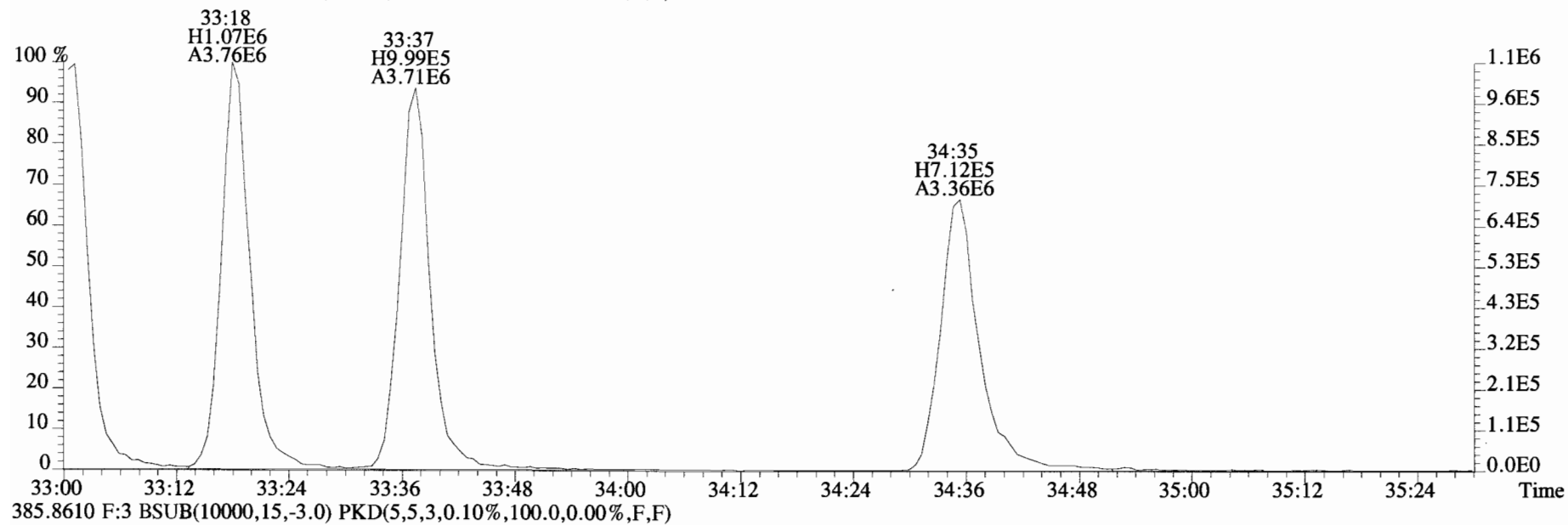
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



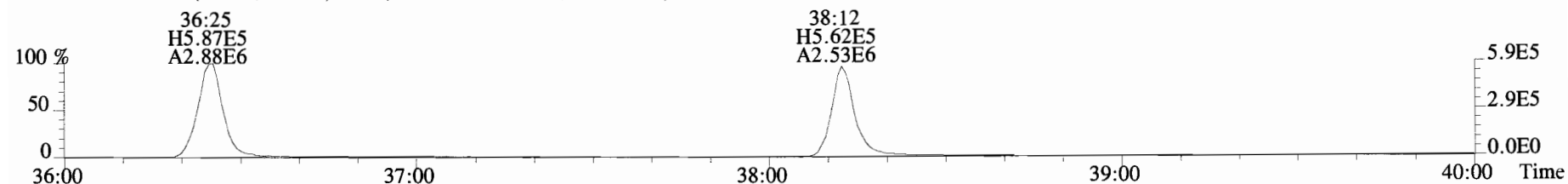
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



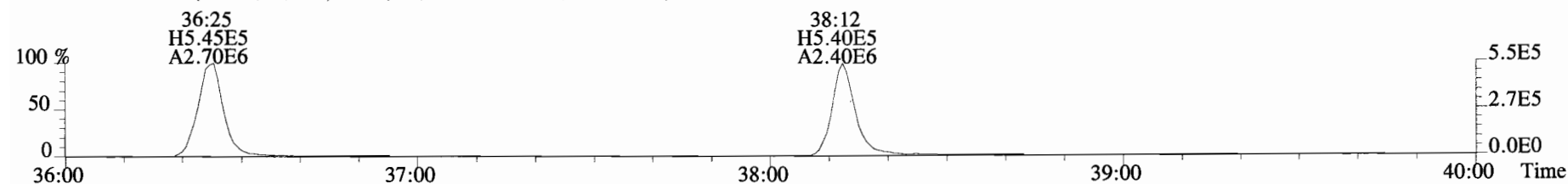
File:190627D1 #1-399 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



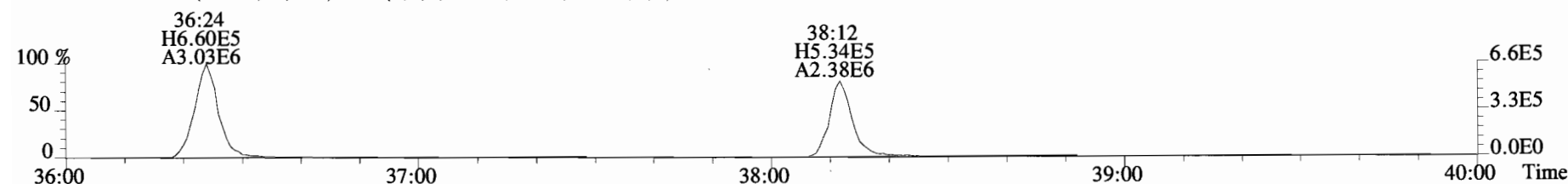
File:190627D1 #1-356 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



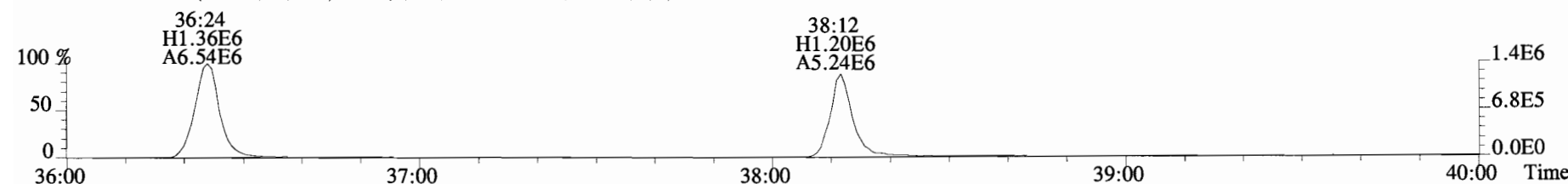
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



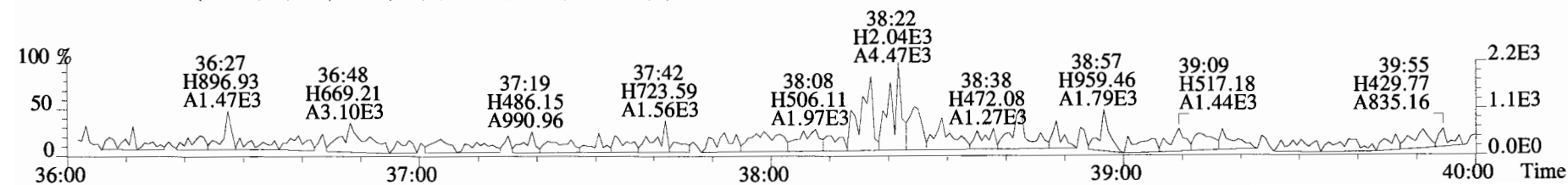
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



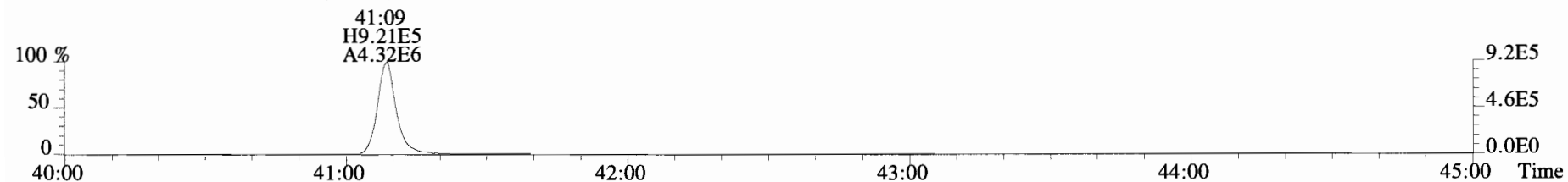
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



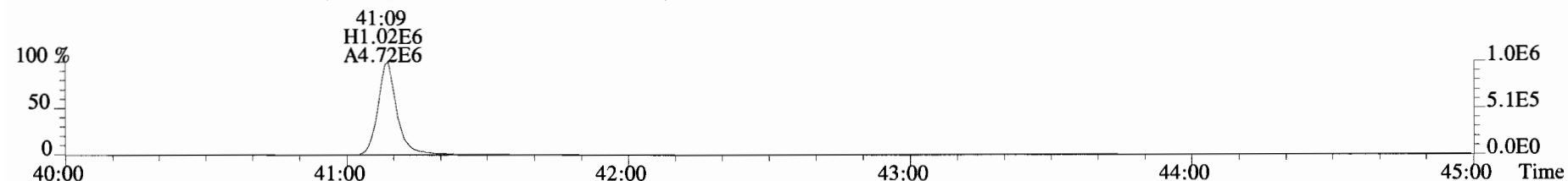
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



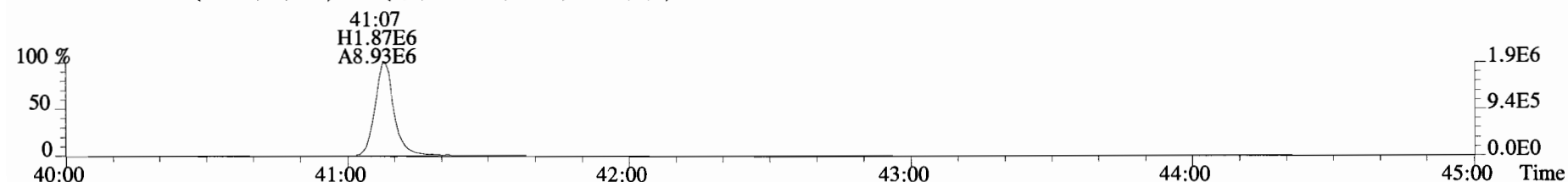
File:190627D1 #1-431 Acq:27-JUN-2019 16:58:02 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



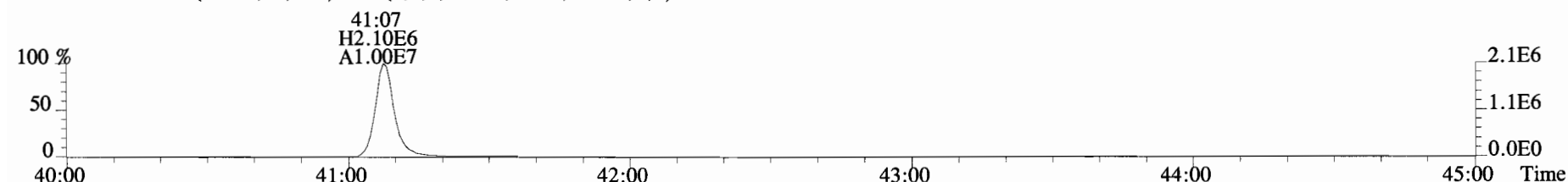
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



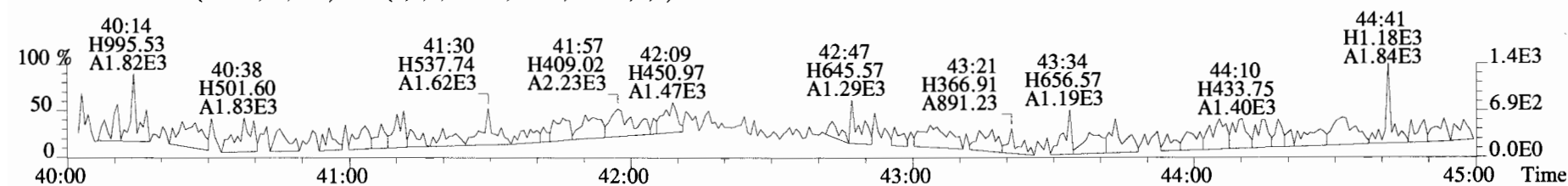
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

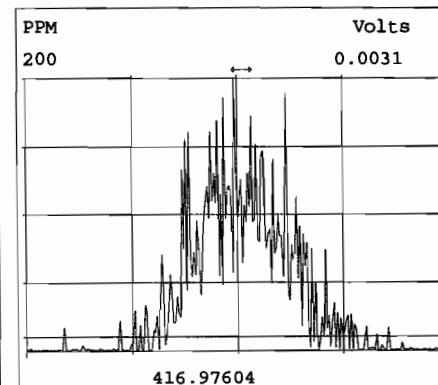
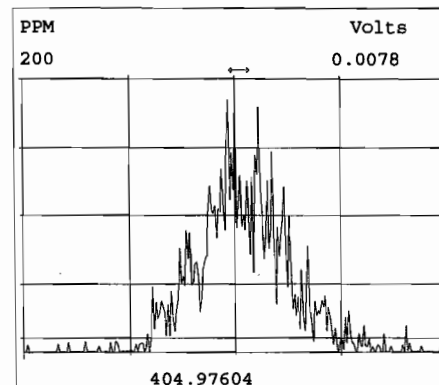
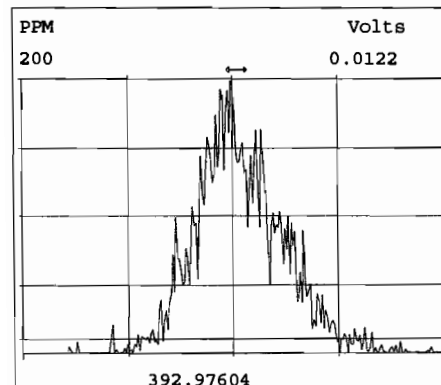
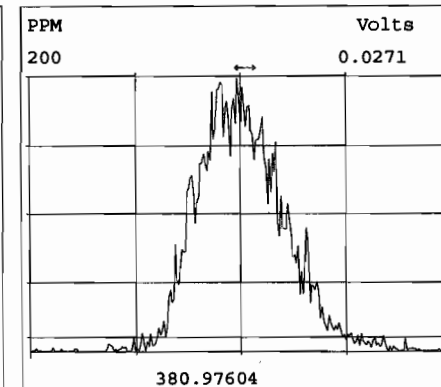
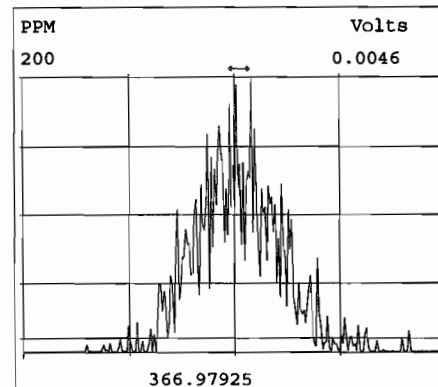
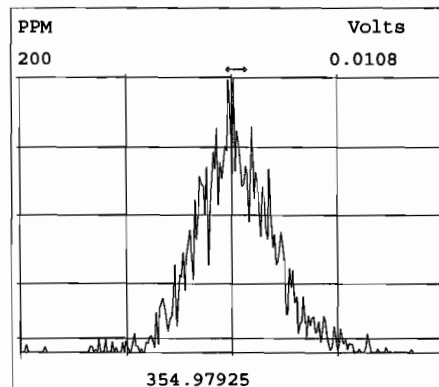
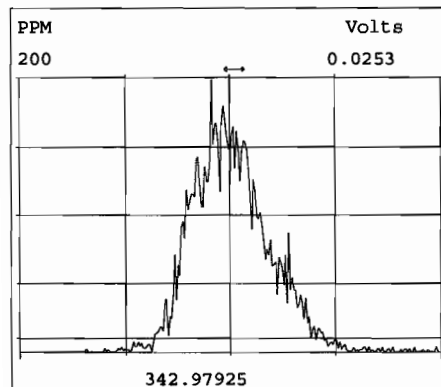
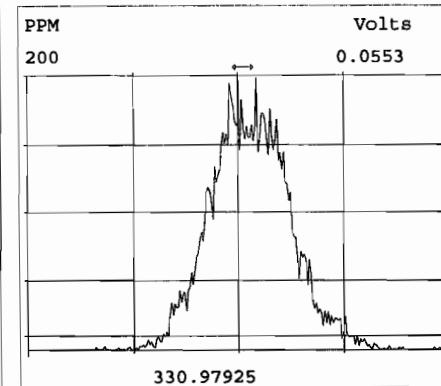
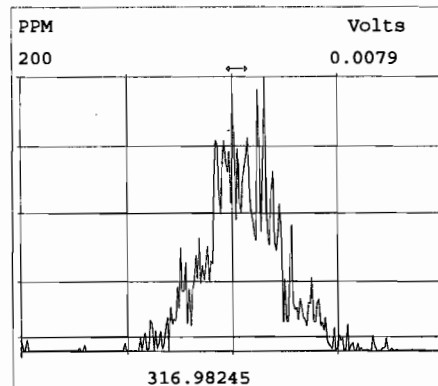
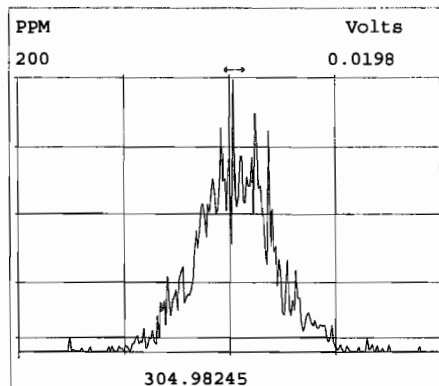
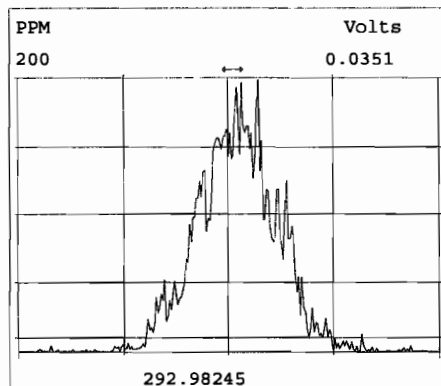


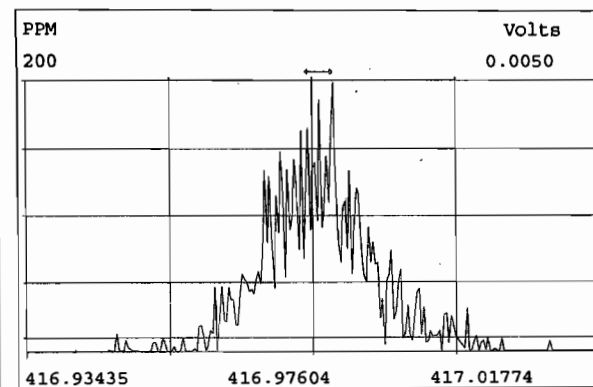
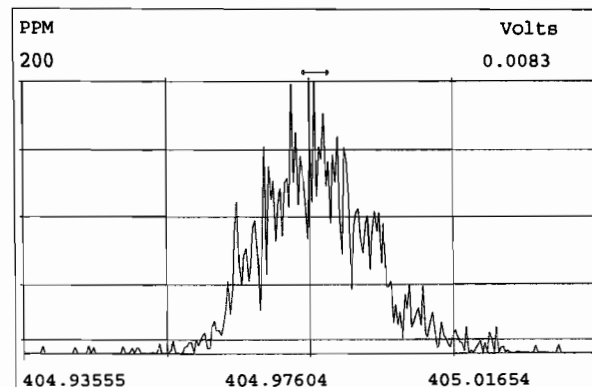
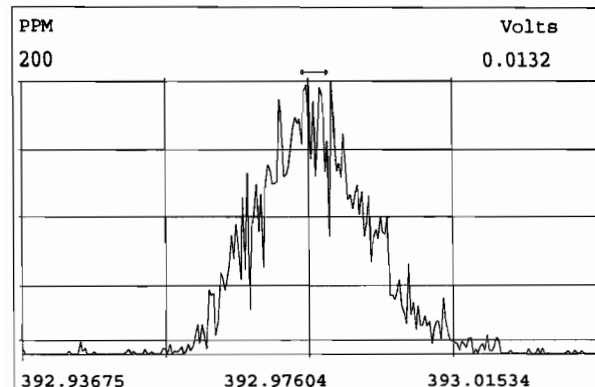
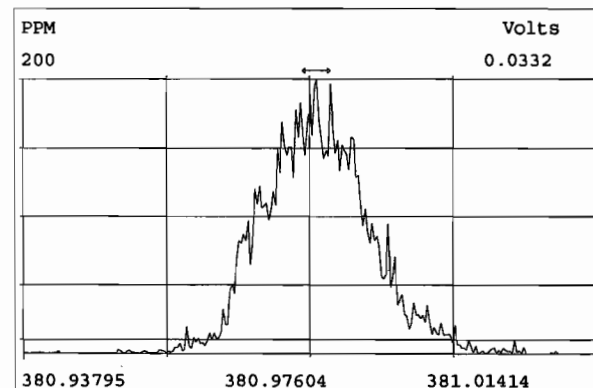
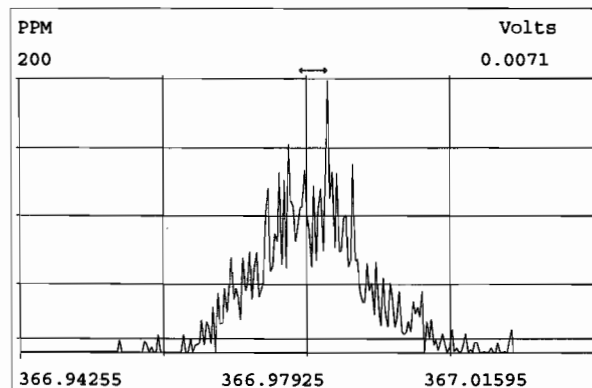
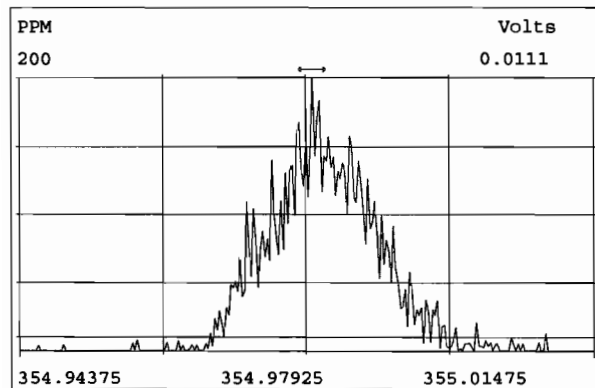
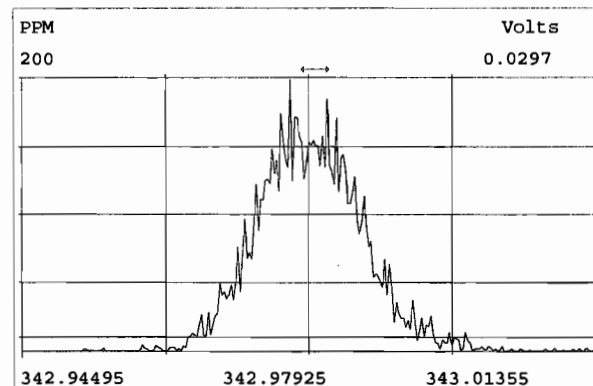
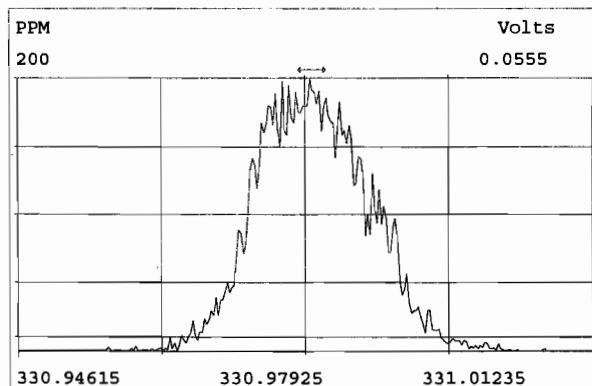
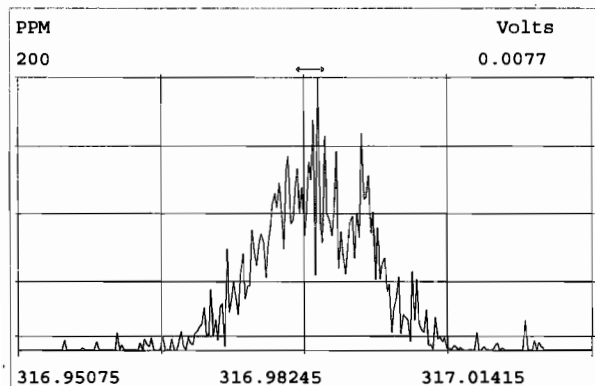
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



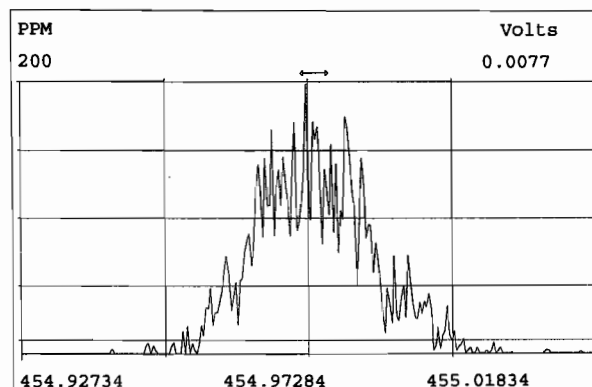
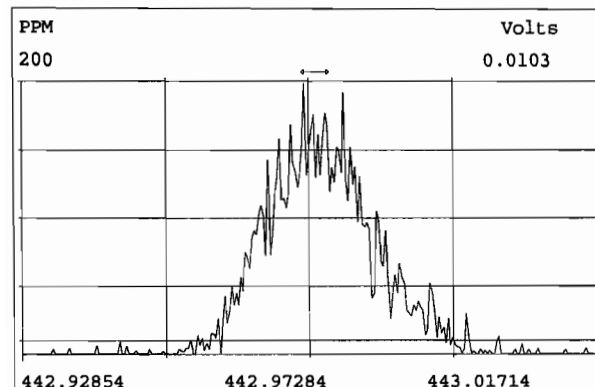
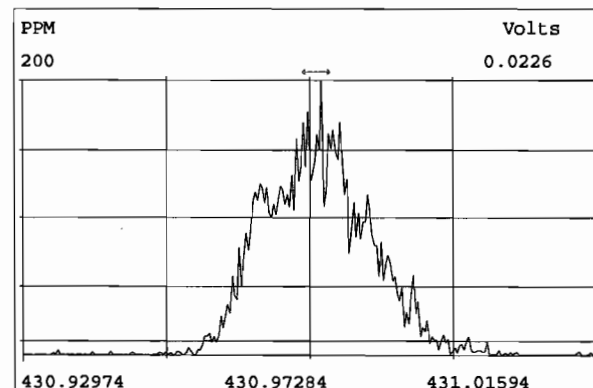
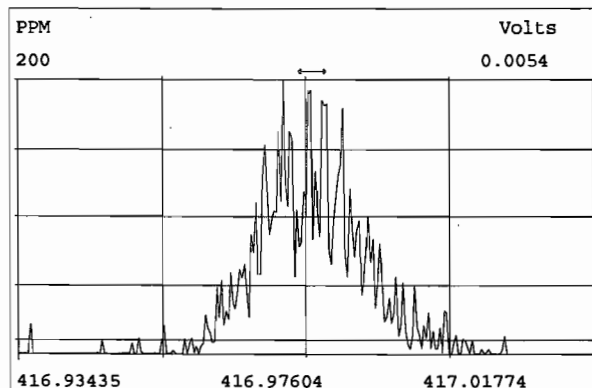
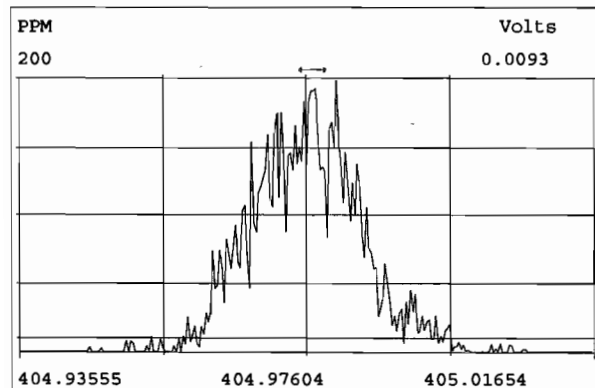
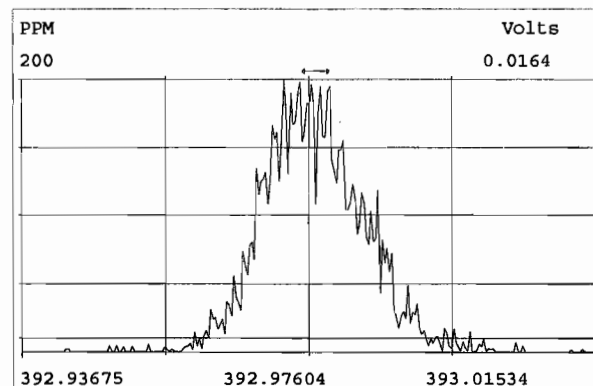
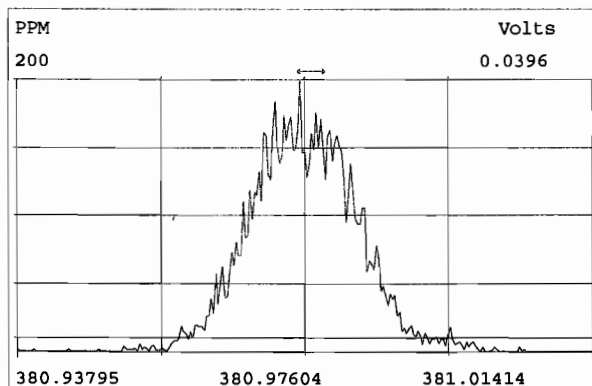
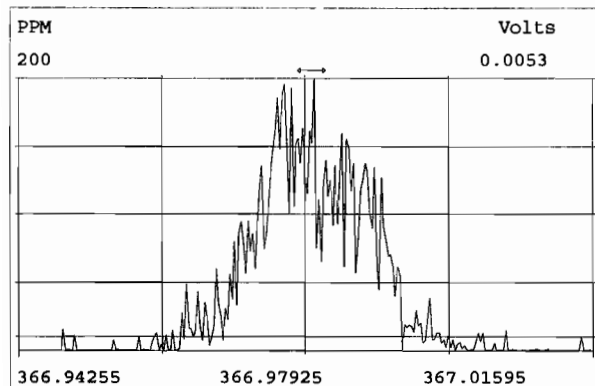
Peak Locate Examination:28-JUN-2019:05:02 File:RES_CHECK

Experiment:OCDD_DB5 Function:1 Reference:PFK



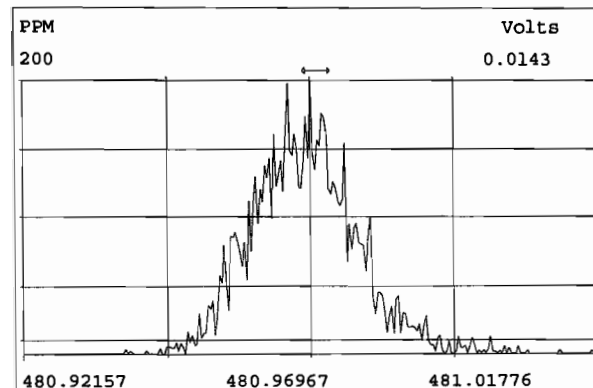
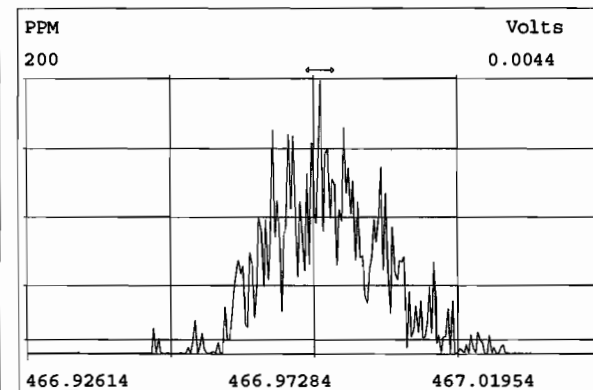
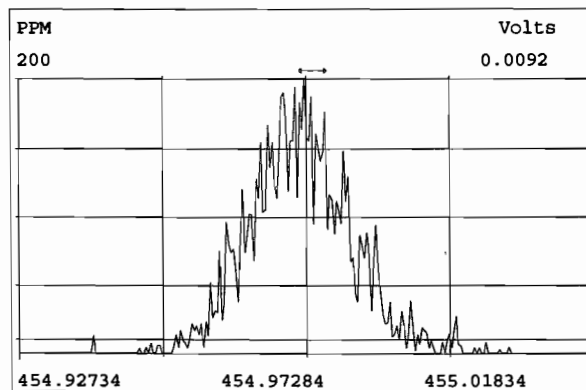
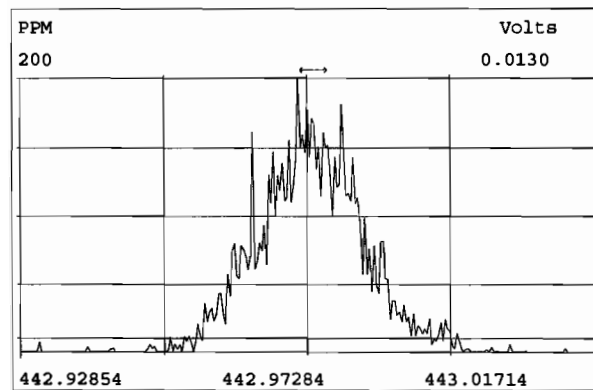
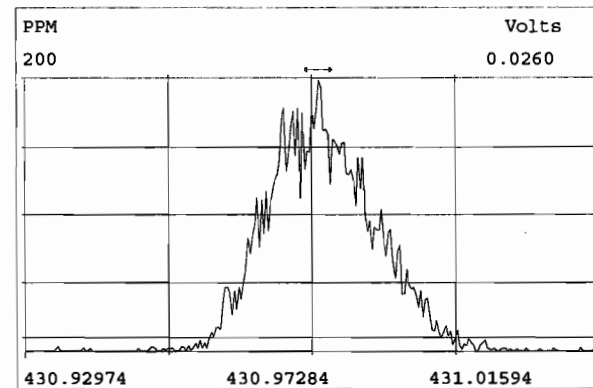
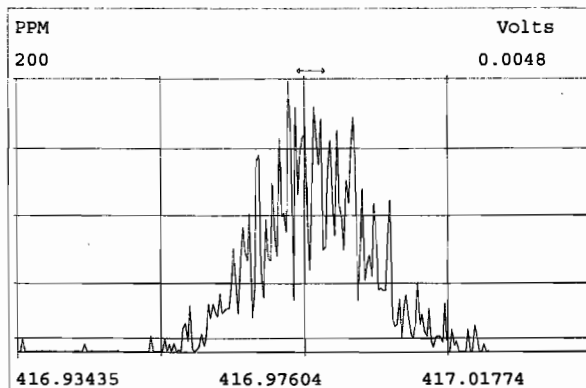
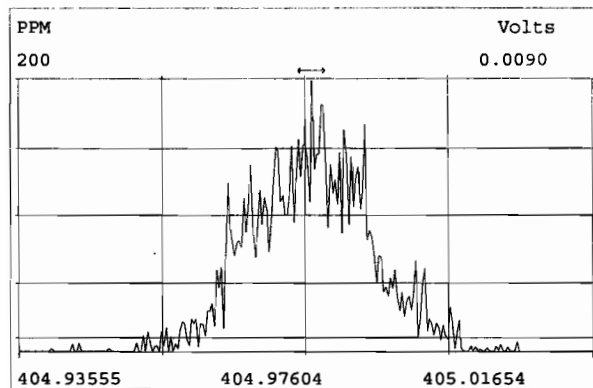


Experiment:OCDD_DB5 Function:3 Reference:PFK



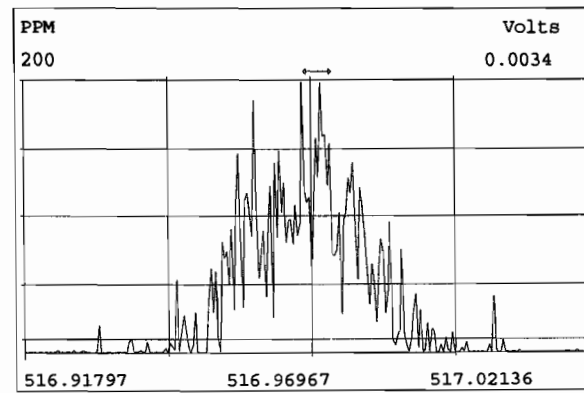
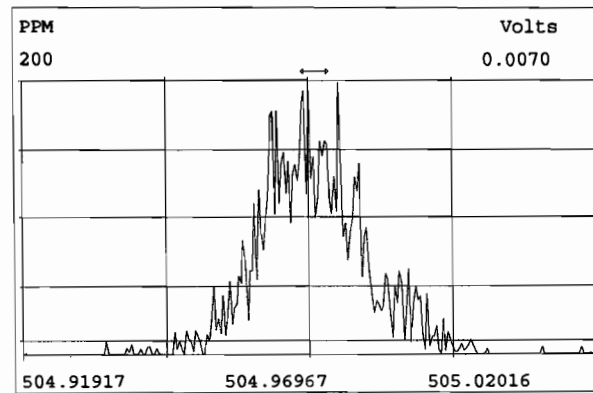
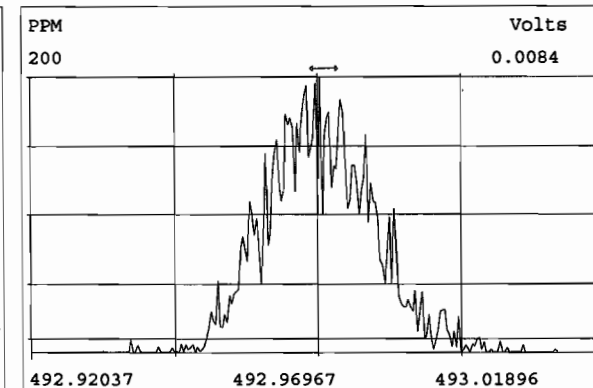
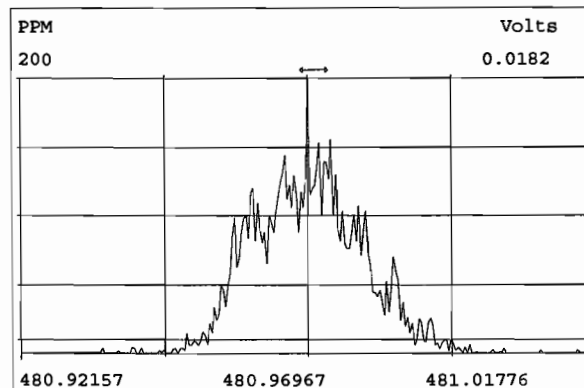
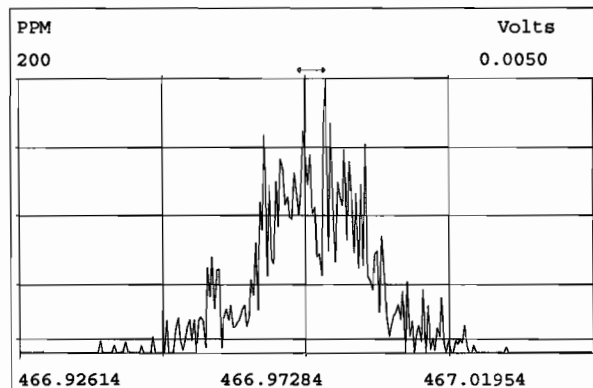
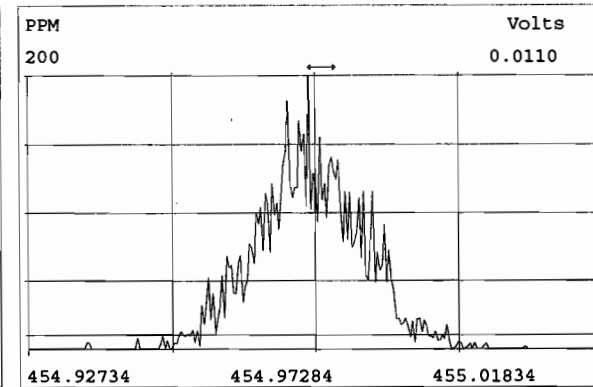
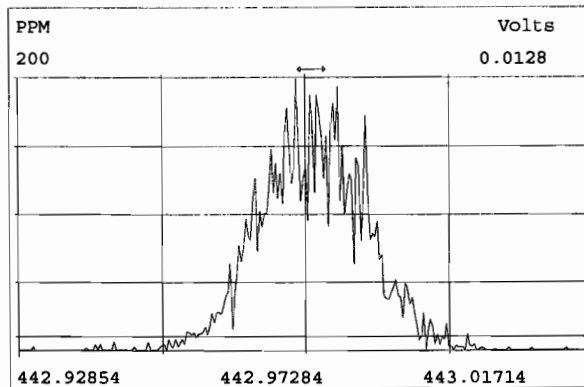
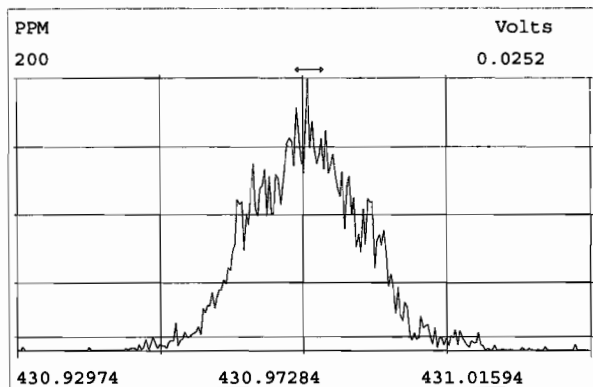
Peak Locate Examination:28-JUN-2019:05:05 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination:28-JUN-2019:05:06 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST190627D2-1

Reviewed By: CT 07/01/19
Initials & Date

End Calibration ID: NA

	Beg.	End
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
Concentrations within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TCDD/TCDF Valleys <25%	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<u>DB</u>	<u></u>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<u>(Y)</u>	<u>N</u>
- Bottle position verified?	<u></u>	<u>DB</u>

Mass resolution \geq

☐ 5k ☐ 6-8K ☐ 8K ☒ 10K
1614 1699 429 1613/1668/8280

Intergrated peaks display correctly?

GC Break <20%

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1
within 12 hours

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190627D2-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190627D2 S#1 Analysis Date: 28-JUN-19 Time: 05:07:29

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	11.8	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	56.6	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	52.0	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	55.2	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05-1.43	y	53.3	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	49.8	43.0 - 58.0
OCDD	M+2/M+4	0.91	0.76-1.02	y	99.4	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	y	9.61	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	56.9	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	y	57.1	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	50.3	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	53.1	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	53.2	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	51.2	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	y	54.8	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	y	53.1	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	103	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 6/28/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190627D2 S#1 Analysis Date: 28-JUN-19 Time: 05:07:29

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	y	98.0	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	83.4	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	y	99.0	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	93.4	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	97.1	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	y	105	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	y	221	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.79	0.65-0.89	y	102	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	85.9	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	83.6	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	104	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	100	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	101	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	y	103	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.46	0.37-0.51	y	101	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	106	77.0 - 129.0
13C-OCDF	M+2/M+4	0.90	0.76-1.02	y	209	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.46	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 6/28/19

FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 5-10-19

RT Window Data Filename: 190627D2 S#1 Analysis Date: 28-JUN-19 Time: 05:07:29

ZB-5MS IS Data Filename: 190627D2 S#1 Analysis Date: 28-JUN-19 Time: 05:07:29

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:41	1,3,6,8-TCDF (F)	20:34
1,2,8,9-TCDD (L)	26:54	1,2,8,9-TCDF (L)	27:04
1,2,4,7,9-PeCDD (F)	28:29	1,3,4,6,8-PeCDF (F)	26:59
1,2,3,8,9-PeCDD (L)	30:53	1,2,3,8,9-PeCDF (L)	31:08
1,2,4,6,7,9-HxCDD (F)	32:16	1,2,3,4,6,8-HxCDF (F)	31:44
1,2,3,7,8,9-HxCDD (L)	34:14	1,2,3,7,8,9-HxCDF (L)	34:38
1,2,3,4,6,7,9-HpCDD (F)	36:50	1,2,3,4,6,7,8-HpCDF (F)	36:27
1,2,3,4,6,7,8-HpCDD (L)	37:41	1,2,3,4,7,8,9-HpCDF (L)	38:14

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DBDate: 6/28/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190627D2 S#1 Analysis Date: 28-JUN-19 Time: 05:07:29

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.199	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.153	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.188	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052

Analyst: DB
Date: 6/28/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190627D2 S#1 Analysis Date: 28-JUN-19 Time: 05:07:29

NATIVE ANALYTES	RETENTION TIME		RRT	QC LIMITS (1)
	REFERENCE			
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001	
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005	
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001	
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001	
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001	
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.001	0.998-1.004	
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.001	0.998-1.004	
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001	
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001	
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001	
OCDD	13C-OCDD	1.000	0.999-1.001	
OCDF	13C-OCDF	1.000	0.999-1.001	

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.010	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.147	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 6/28/19

Client ID: 1613 CS3 19C2204
Lab ID: ST190627D2-1

Filename: 190627D2 S:1 Acq:28-JUN-19 05:07:29
GC Column ID: ZB-SMS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190627D2-1
EndCAL: NA

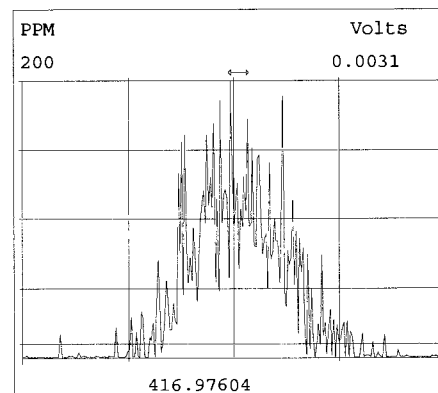
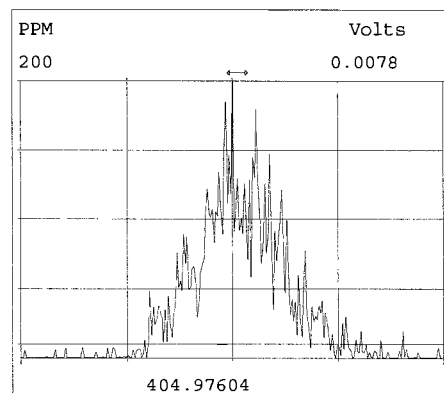
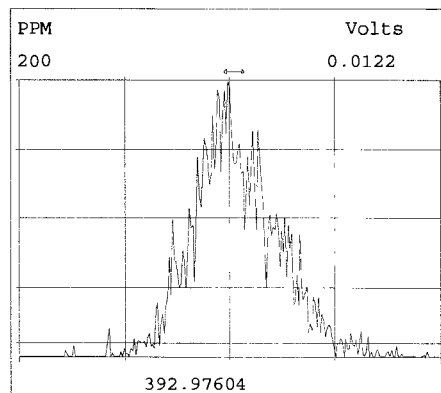
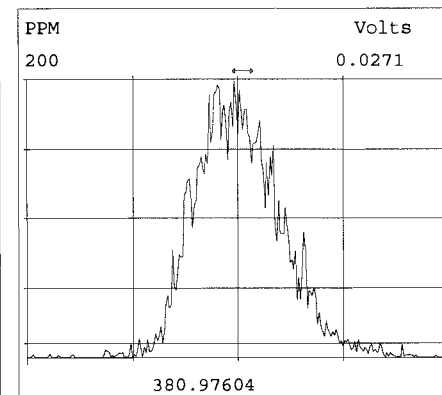
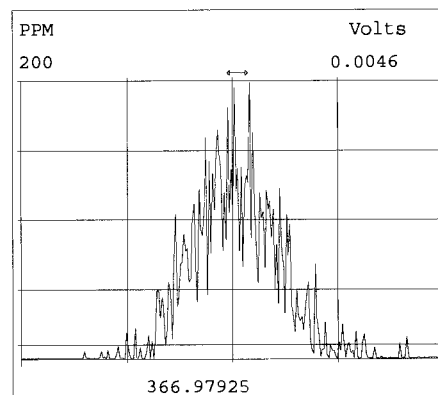
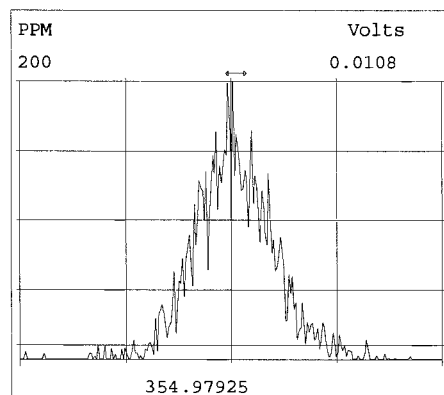
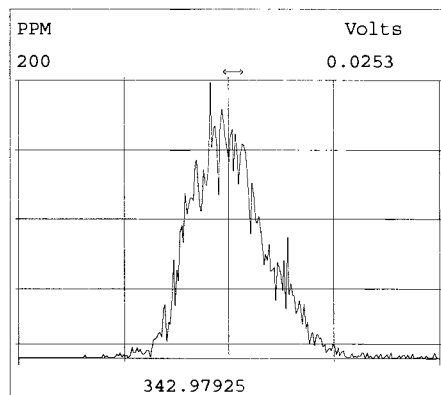
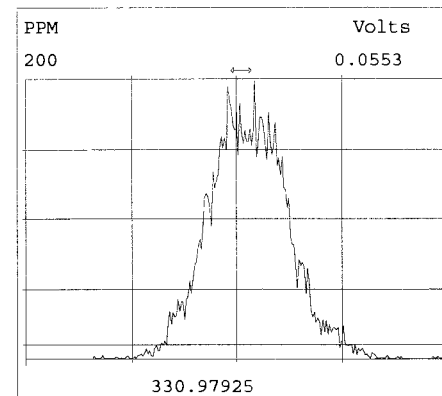
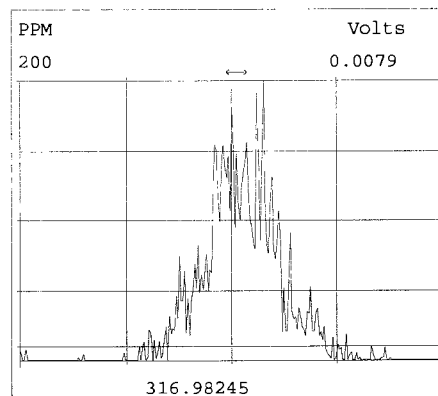
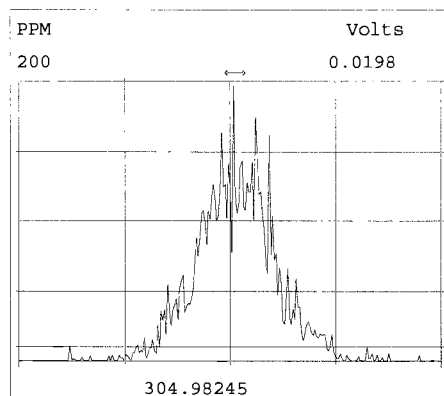
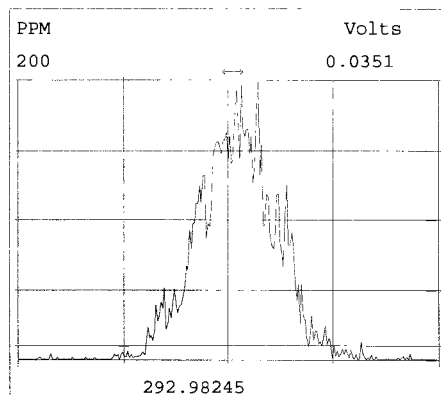
Page 1 of 1

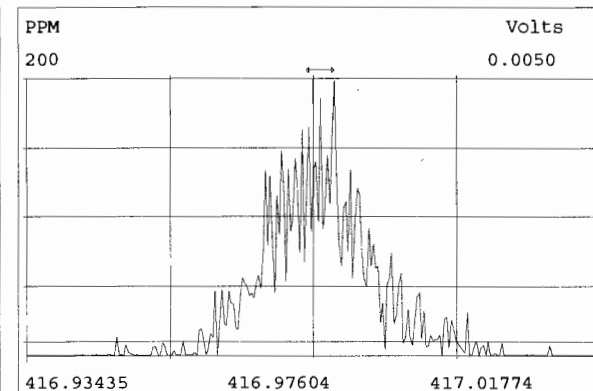
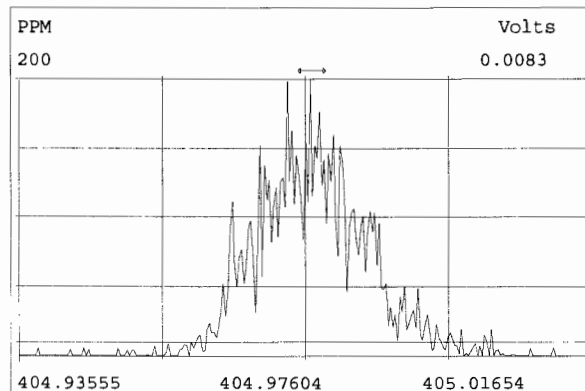
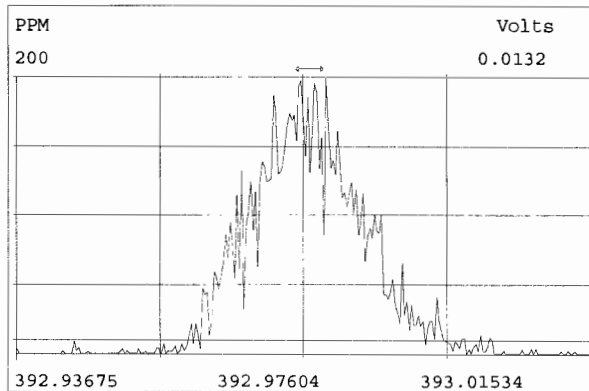
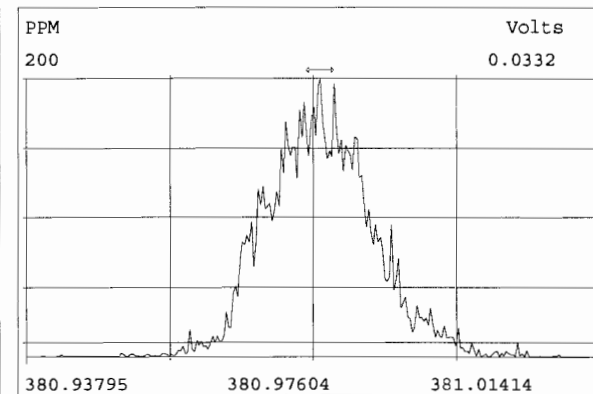
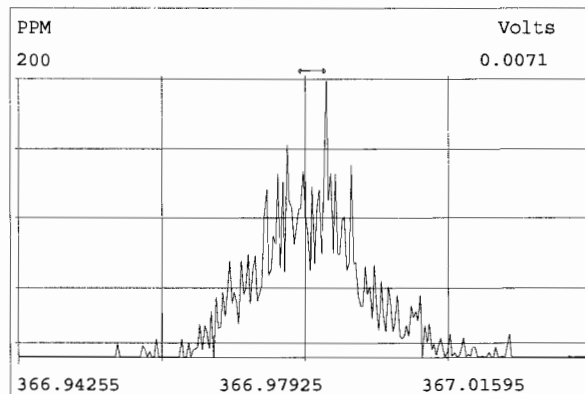
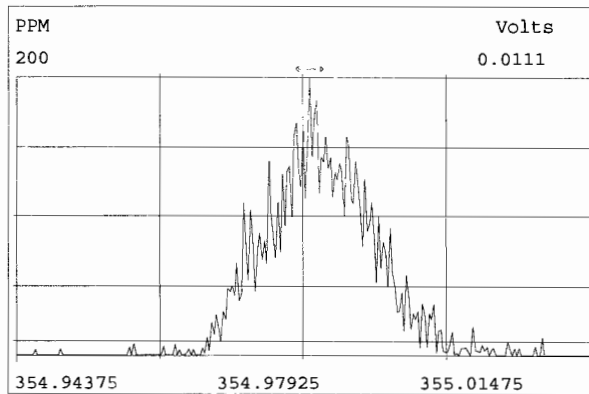
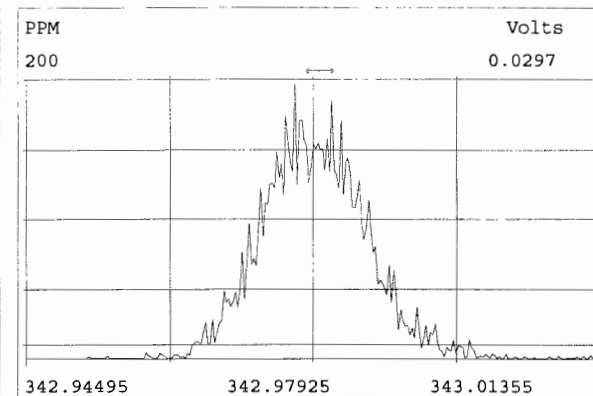
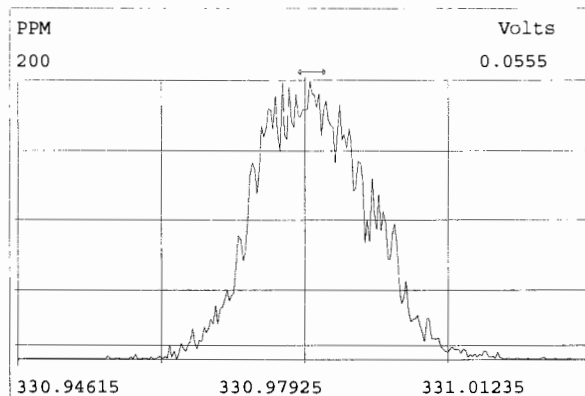
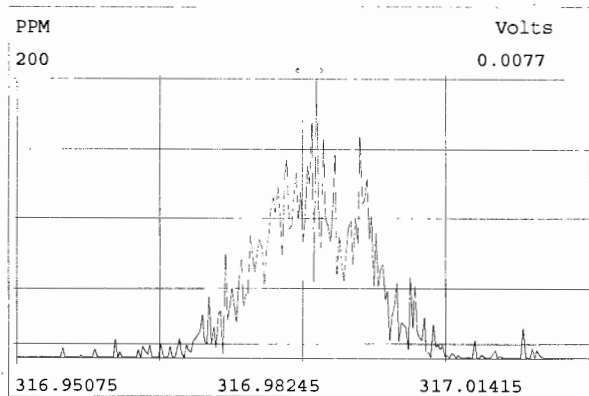
							Name	Conc	EMPC	Qual	noise	DL
							Total Tetra-Dioxins	82.0	82.6	*	*	
							Total Penta-Dioxins	209	210	*	*	
							Total Hexa-Dioxins	233	235	*	*	
							Total Hepta-Dioxins	115	116	*	*	
							Total Tetra-Furans	35.6	36.4	*	*	
							Total Penta-Furans	247.49	247.98	*	*	
							Total Hexa-Furans	277	278	*	*	
							Total Hepta-Furans	108	109	*	*	
							Rec	Qual				
IS	13C-2,3,7,8-TCDD	1.23e+07	0.81 y	1.11	26:02	98.025	98.0					
IS	13C-1,2,3,7,8-PeCDD	9.20e+06	0.63 y	0.98	30:30	83.444	83.4					
IS	13C-1,2,3,4,7,8-HxCDD	8.38e+06	1.30 y	0.68	33:48	99.004	99.0					
IS	13C-1,2,3,6,7,8-HxCDD	9.85e+06	1.28 y	0.84	33:54	93.419	93.4					
IS	13C-1,2,3,7,8,9-HxCDD	9.87e+06	1.24 y	0.81	34:12	97.076	97.1					
IS	13C-1,2,3,4,6,7,8-HpCDD	9.01e+06	1.07 y	0.69	37:40	104.89	105					
IS	13C-OCDD	1.73e+07	0.91 y	0.62	40:56	220.71	110					
IS	13C-2,3,7,8-TCDF	1.90e+07	0.79 y	1.05	25:17	101.98	102					
IS	13C-1,2,3,7,8-PeCDF	1.45e+07	1.62 y	0.95	29:20	85.902	85.9					
IS	13C-2,3,4,7,8-PeCDF	1.38e+07	1.60 y	0.94	30:14	83.557	83.6					
IS	13C-1,2,3,4,7,8-HxCDF	1.11e+07	0.51 y	0.86	32:55	103.76	104					
IS	13C-1,2,3,6,7,8-HxCDF	1.28e+07	0.52 y	1.02	33:02	100.29	100					
IS	13C-2,3,4,6,7,8-HxCDF	1.21e+07	0.52 y	0.95	33:39	101.28	101					
IS	13C-1,2,3,7,8,9-HxCDF	1.12e+07	0.50 y	0.87	34:37	102.93	103					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.02e+07	0.46 y	0.81	36:26	100.95	101					
IS	13C-1,2,3,4,7,8,9-HpCDF	8.39e+06	0.44 y	0.63	38:14	106.02	106					
IS	13C-OCDF	2.05e+07	0.90 y	0.78	41:10	209.41	105					
C/Up	37C1-2,3,7,8-TCDD	1.30e+06		1.22	26:03	9.4619	94.6	Integrations		Reviewed		
							by			by		
RS/RT	13C-1,2,3,4-TCDD	1.13e+07	0.80 y	1.00	25:27	100.00	Analyst: <u>DB</u>		Analyst: <u>CT</u>			
RS	13C-1,2,3,4-TCDF	1.77e+07	0.82 y	1.00	24:02	100.00						
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.25e+07	0.51 y	1.00	33:20	100.00						

Vista Analytical Laboratory - Injection Log Run file: 190627D2 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
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190627D2	2	SOLVENT BLANK	DB	28-JUN-19	05:55:04	ST190627D2-1	NA
190627D2	3	1901246-10	DB	28-JUN-19	06:42:41	ST190627D2-1	NA
190627D2	4	1901246-11	DB	28-JUN-19	07:30:24	ST190627D2-1	NA
190627D2	5	1901246-12	DB	28-JUN-19	08:18:01	ST190627D2-1	NA
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190627D2	8	1901246-15	DB	28-JUN-19	10:41:03	ST190627D2-1	NA
190627D2	9	1901246-16	DB	28-JUN-19	11:28:47	ST190627D2-1	NA
190627D2	10	1901246-17	DB	28-JUN-19	12:16:34	ST190627D2-1	NA
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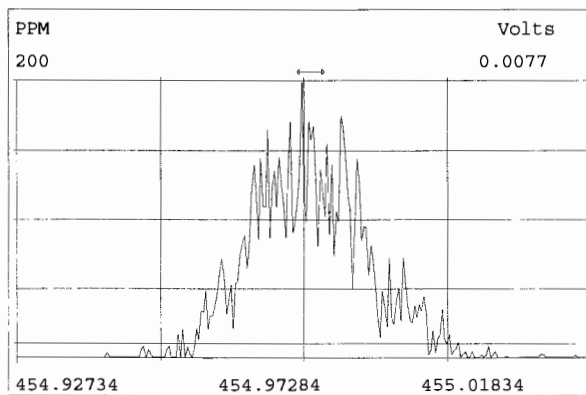
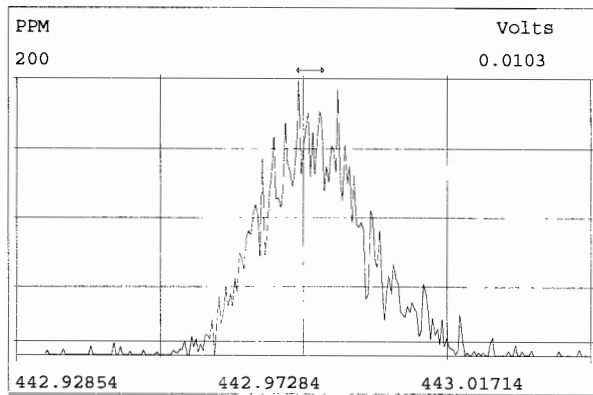
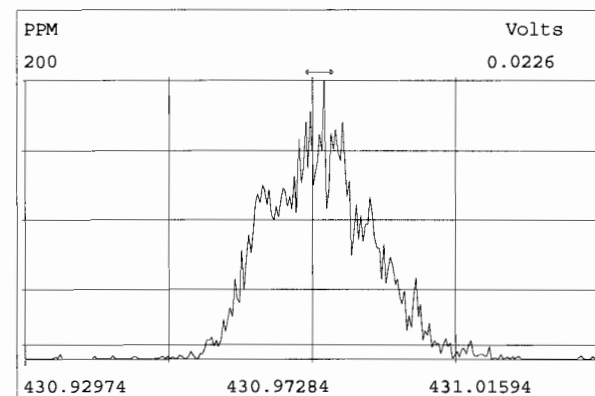
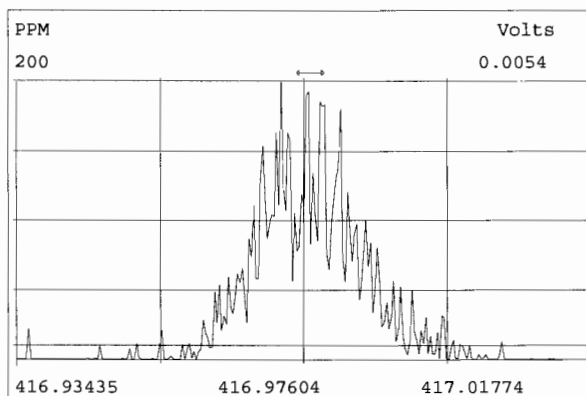
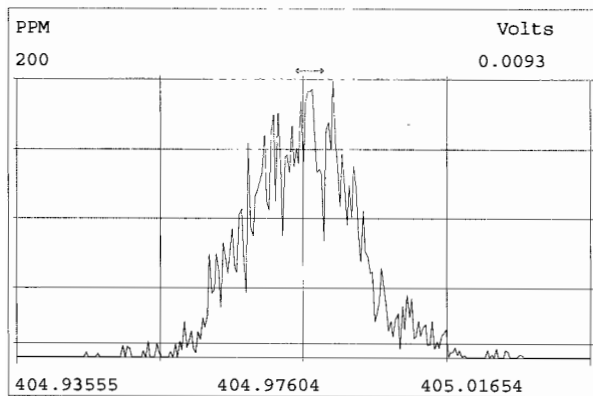
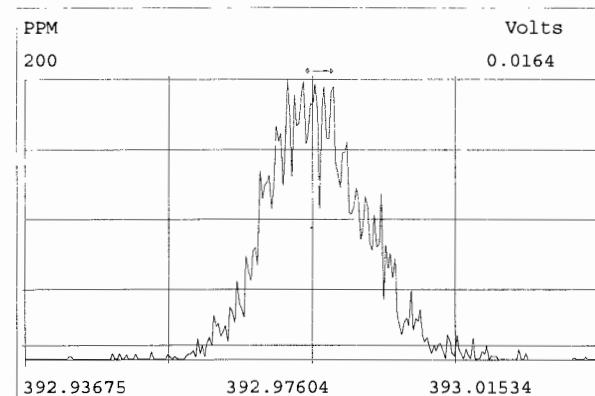
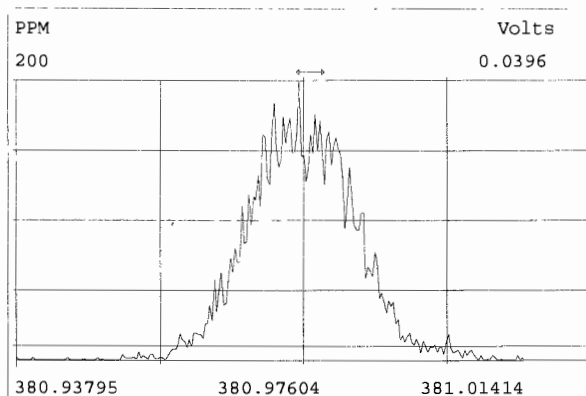
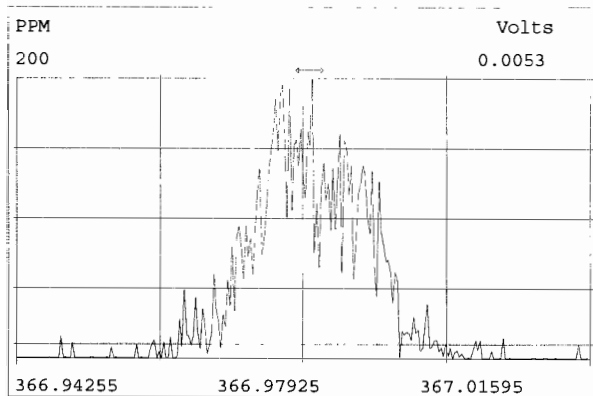
Experiment:OCDD_DB5 Function:1 Reference:PFK

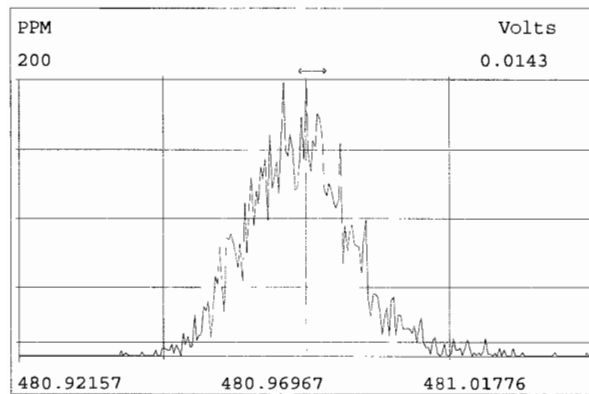
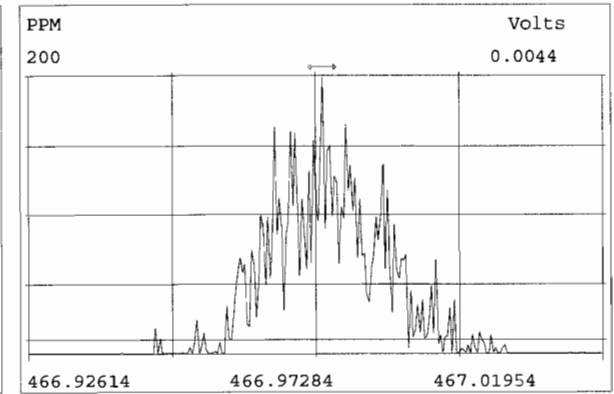
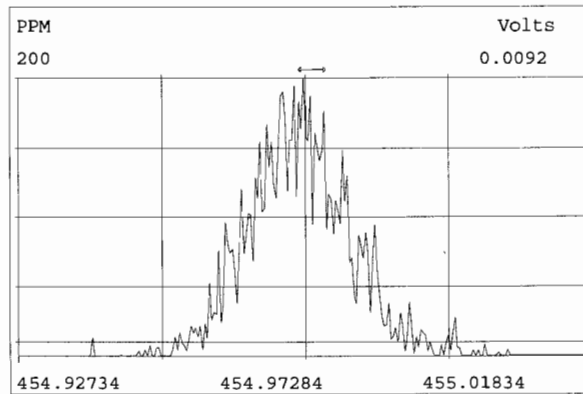
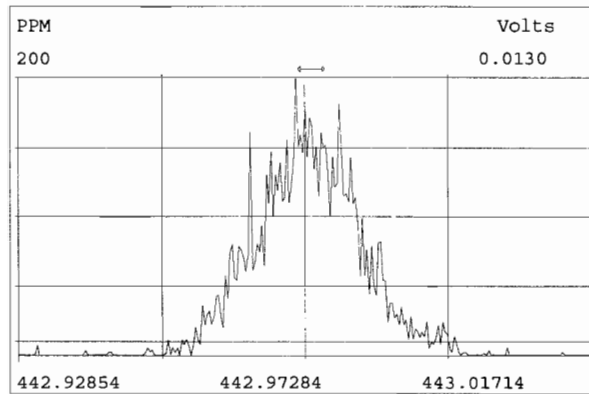
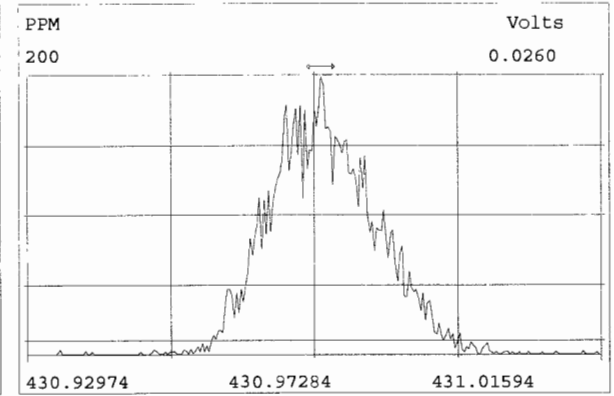
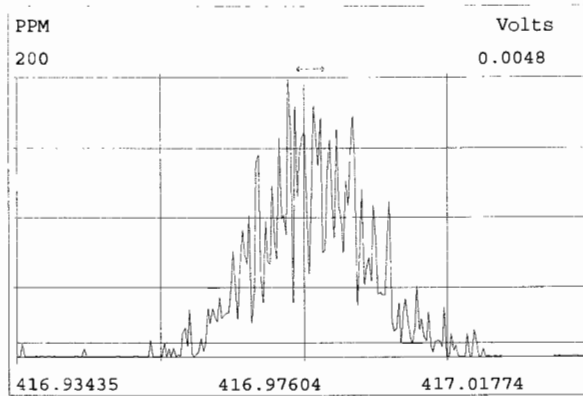
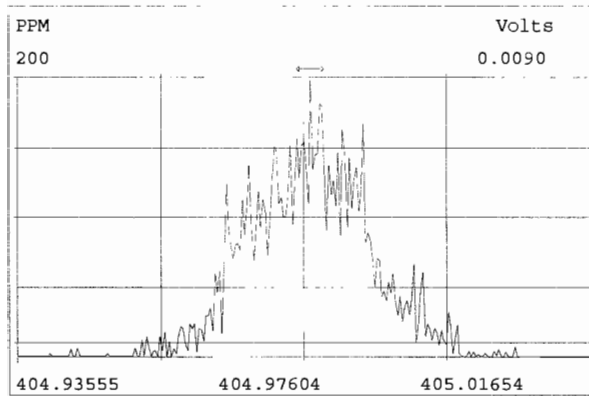


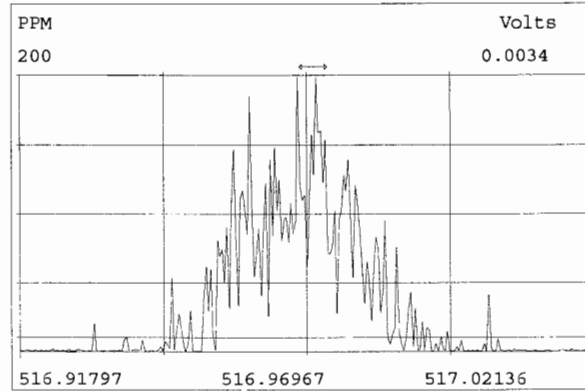
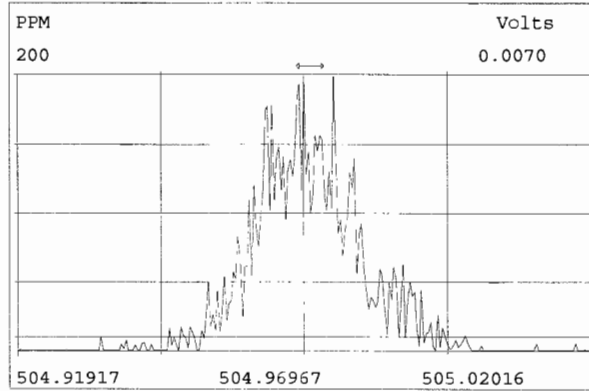
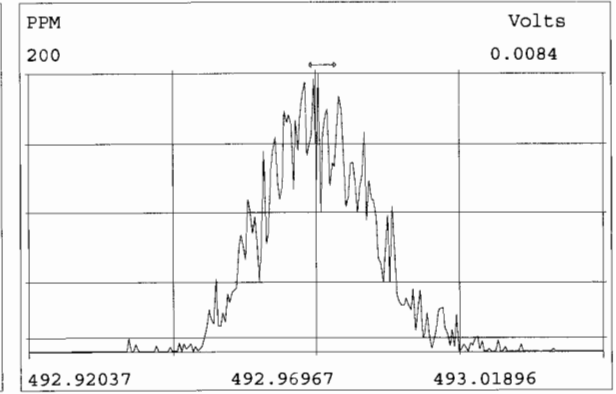
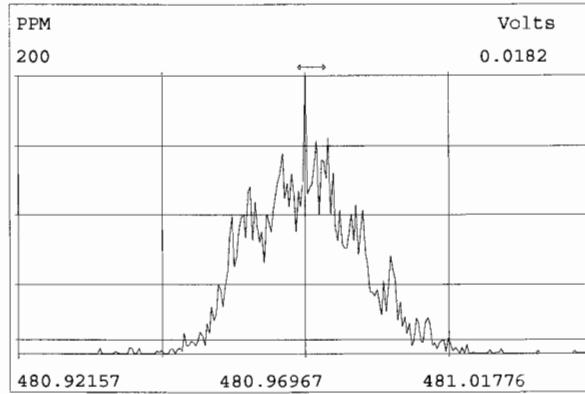
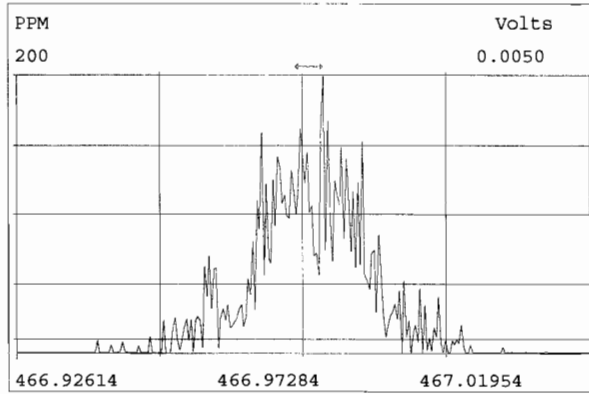
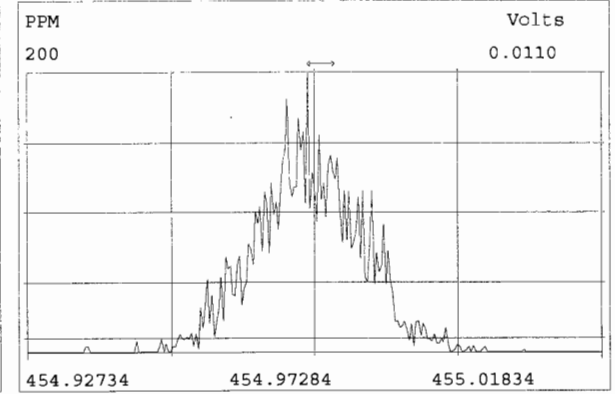
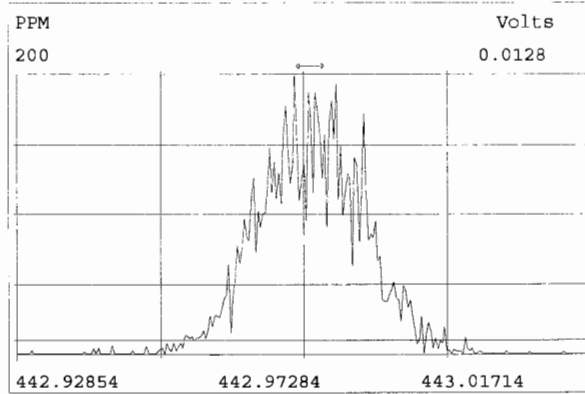
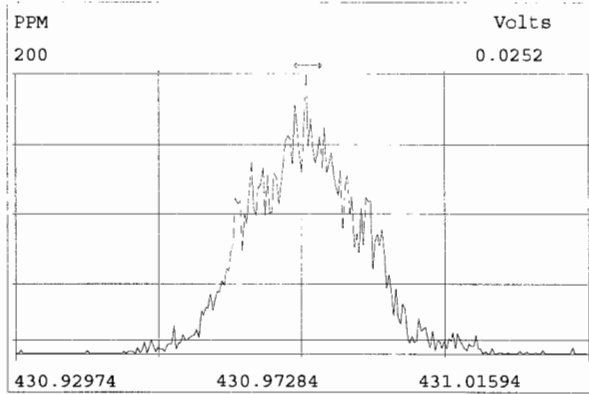


Peak Locate Examination:28-JUN-2019:05:04 File:RES_CHECK

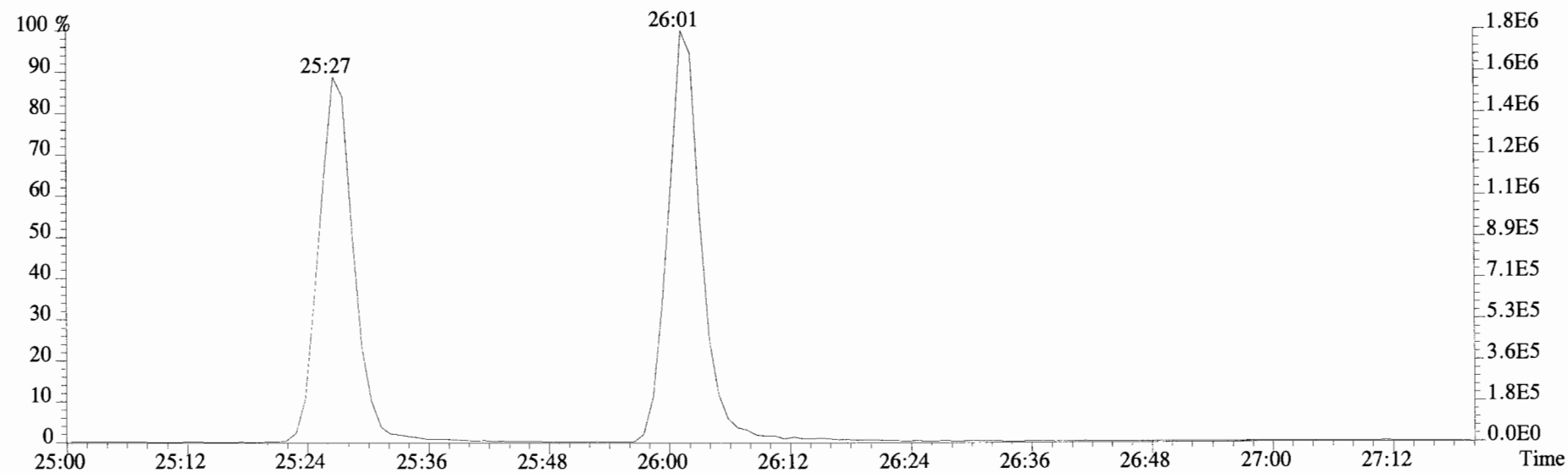
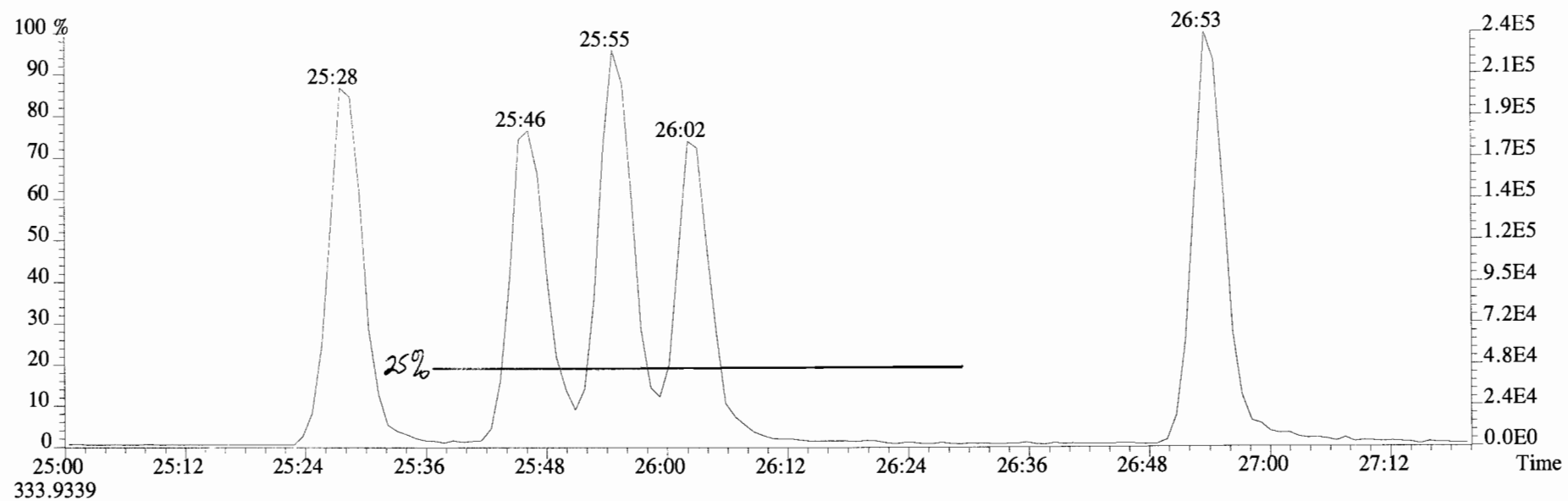
Experiment:OCDD_DB5 Function:3 Reference:PFK



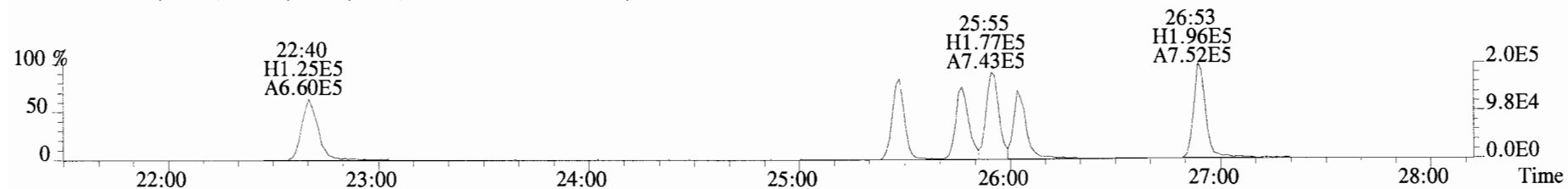




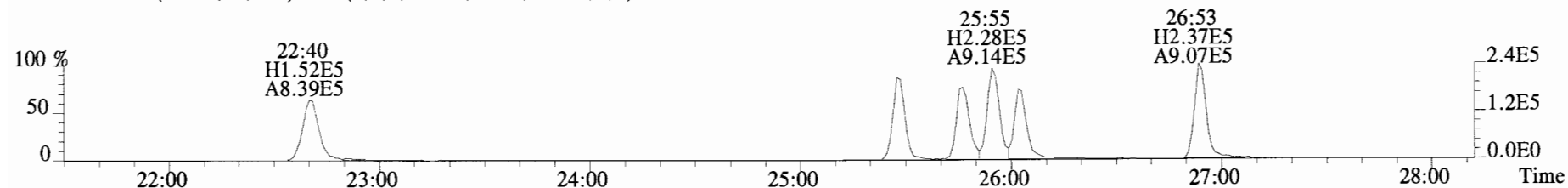
File:190627D2 #1-514 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



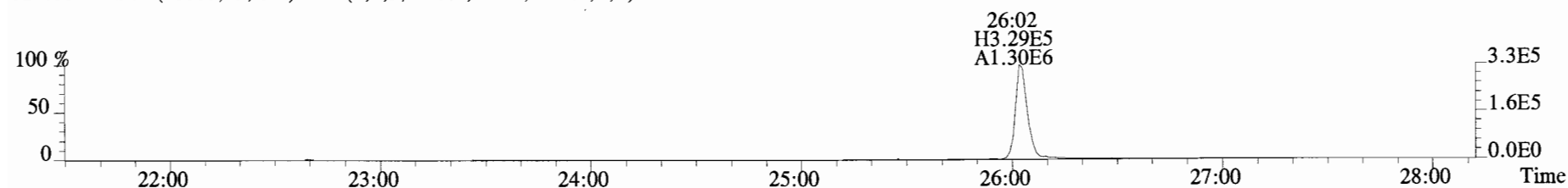
File:190627D2 #1-514 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



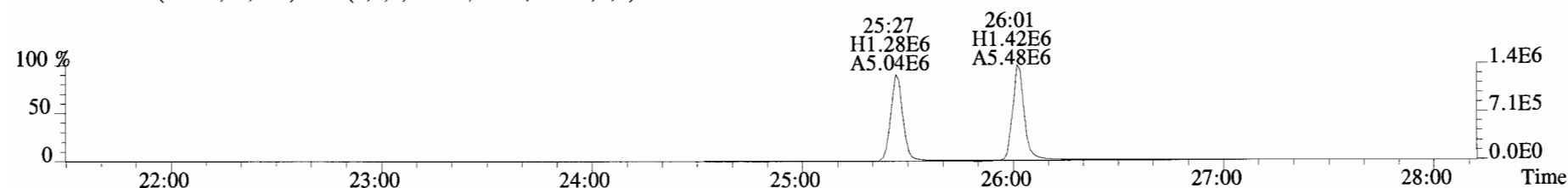
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



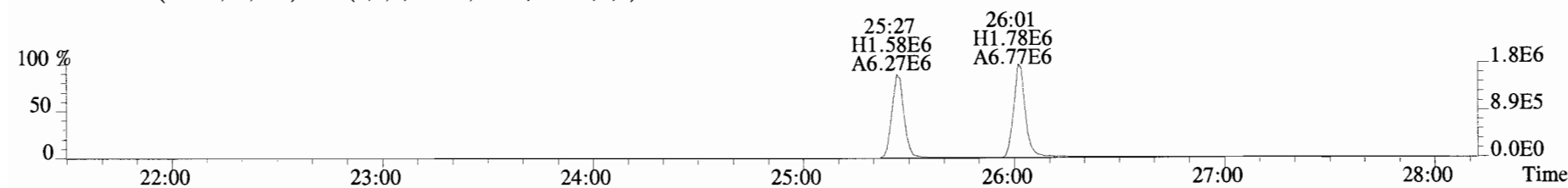
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



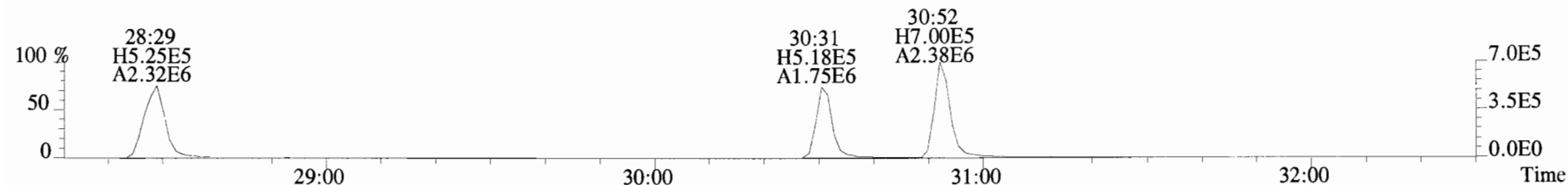
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



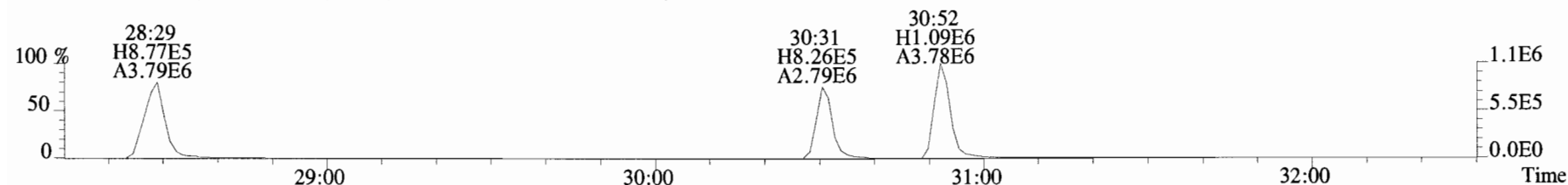
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



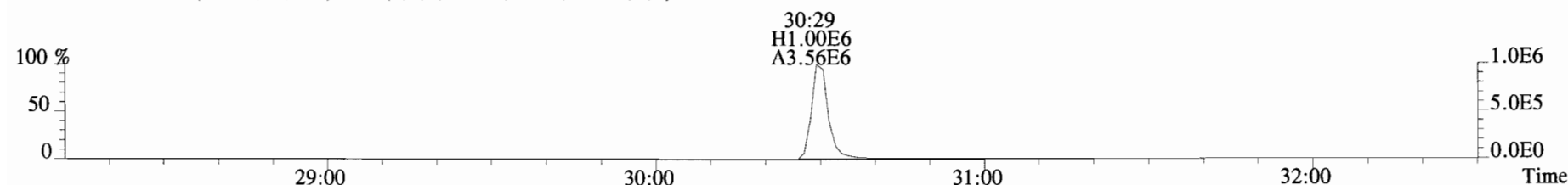
File:190627D2 #1-184 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



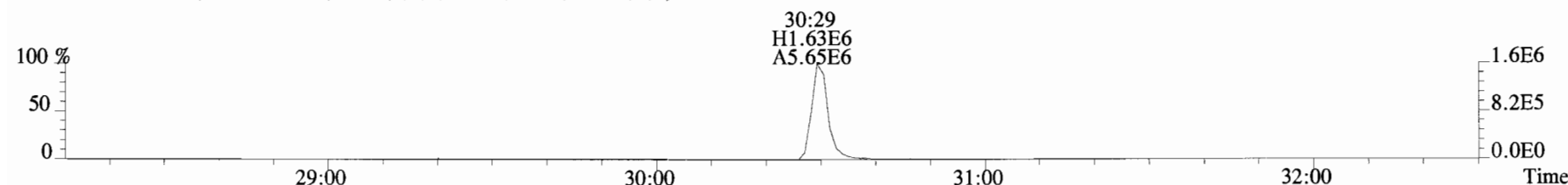
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



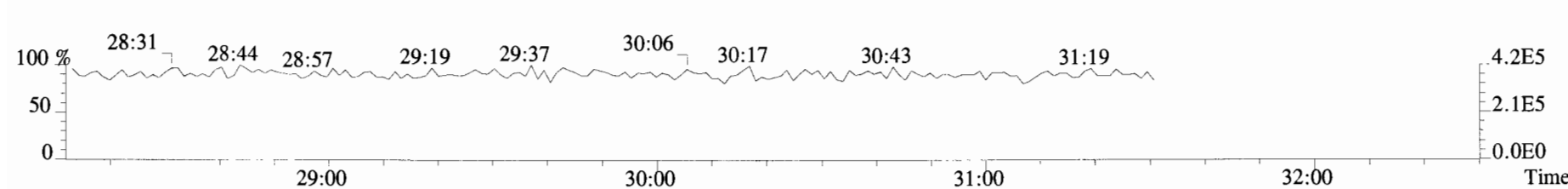
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



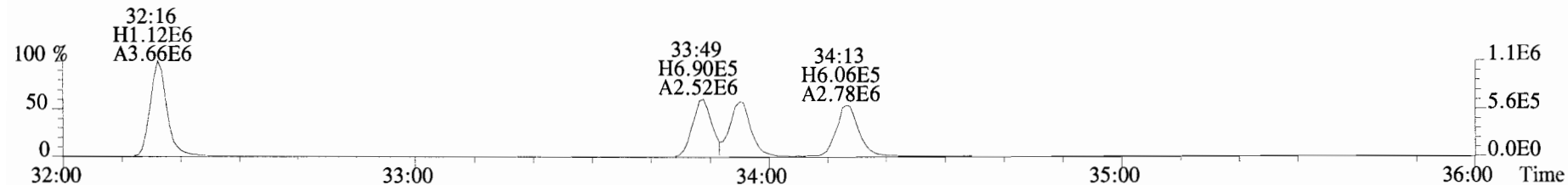
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



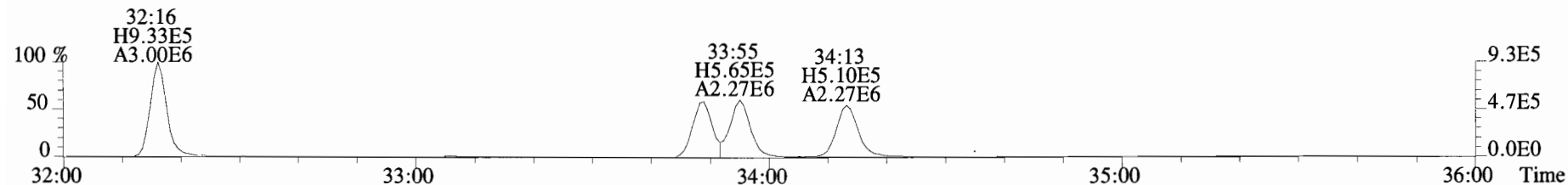
366.9792 F:2



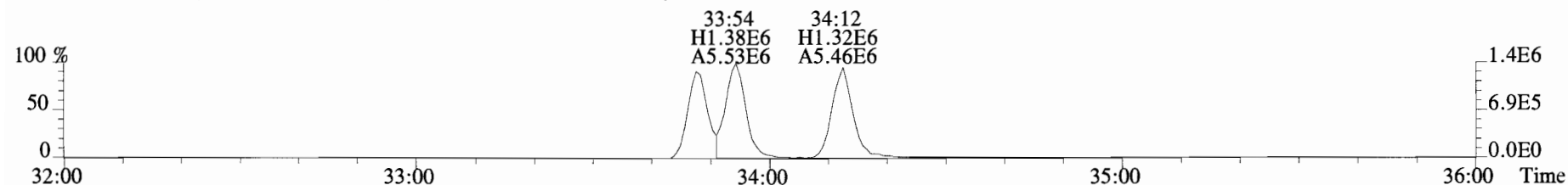
File:190627D2 #1-399 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



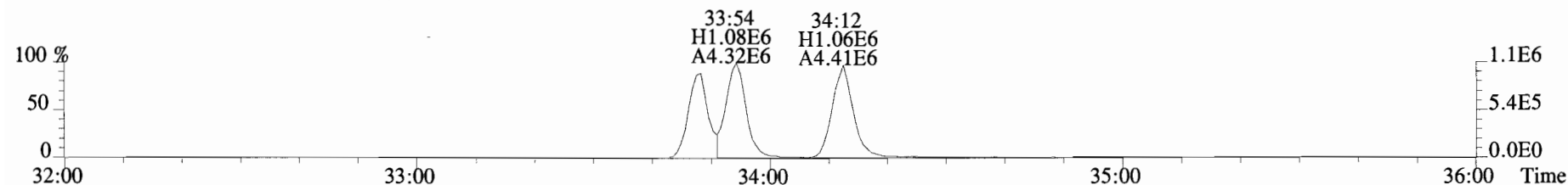
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



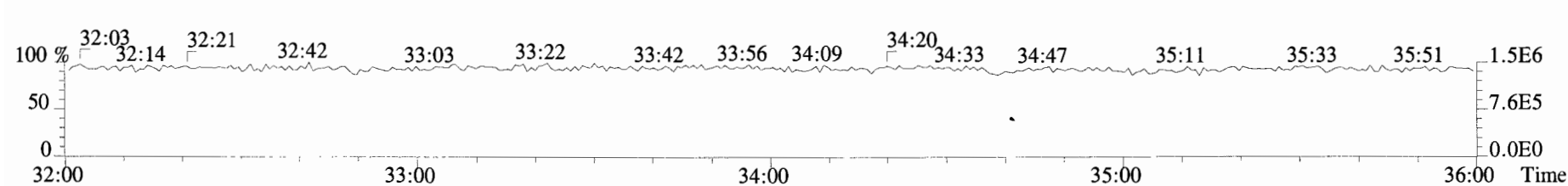
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



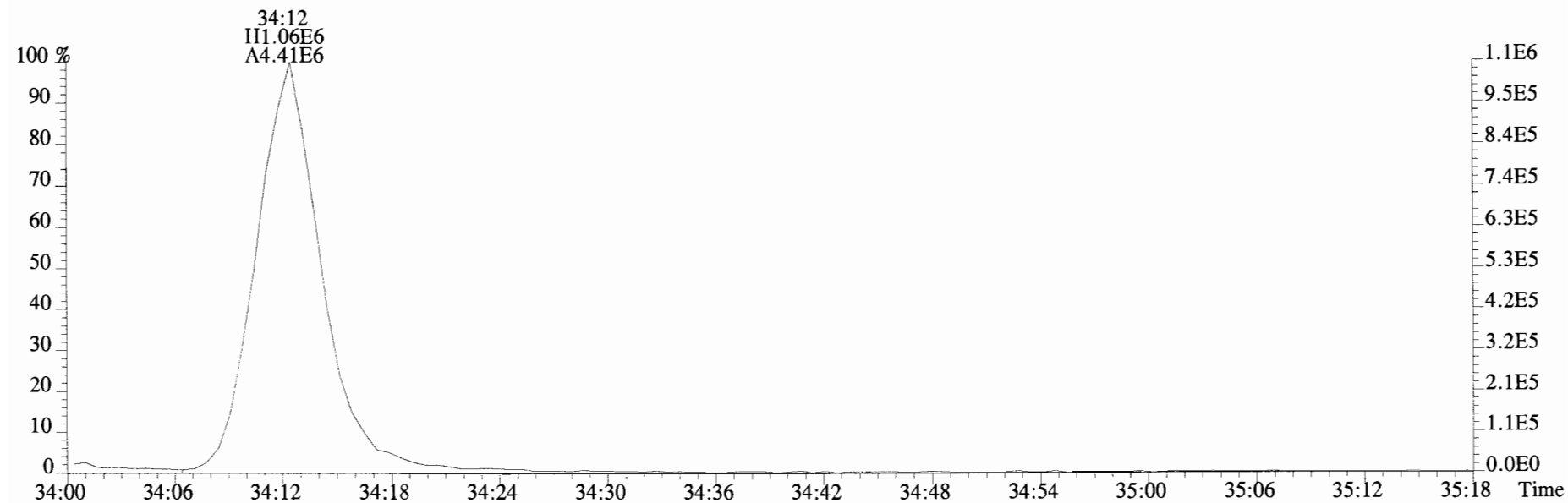
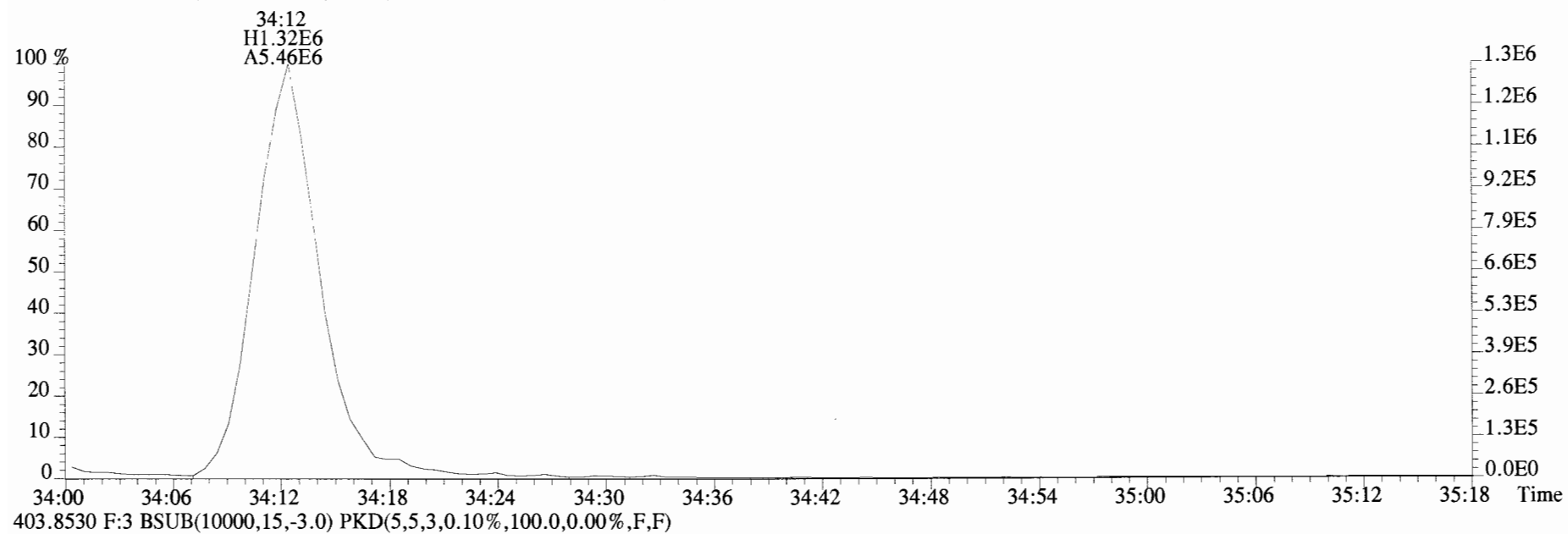
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



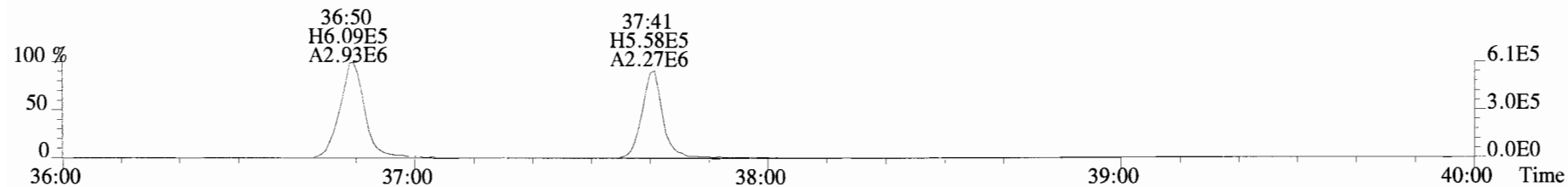
392.9760 F:3



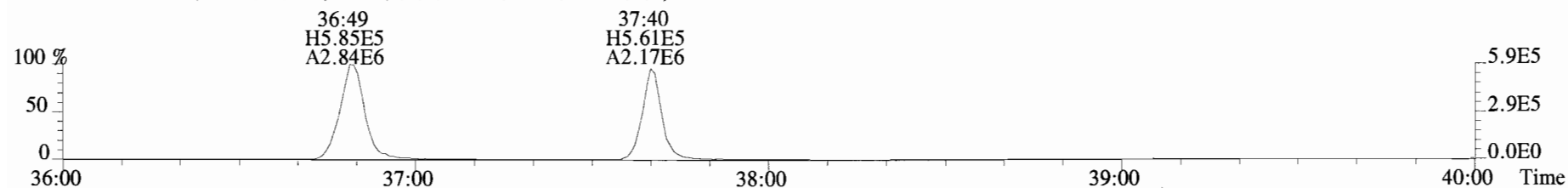
File:190627D2 #1-399 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



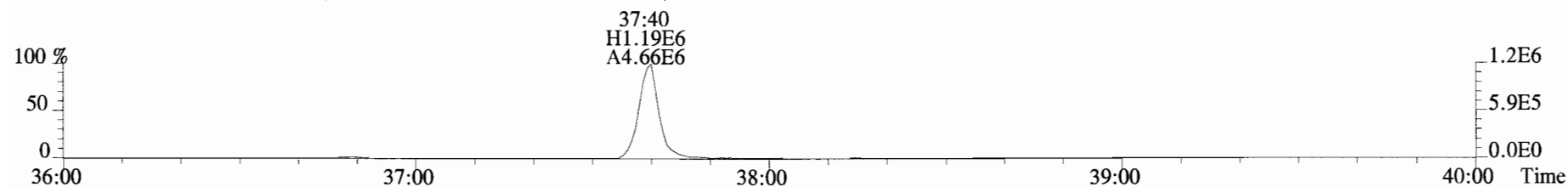
File:190627D2 #1-356 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



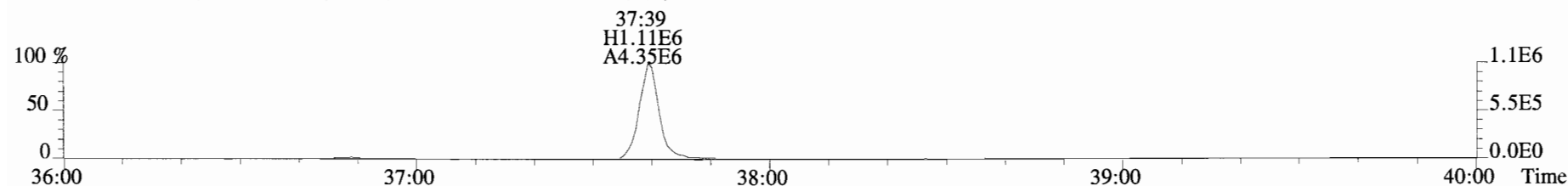
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



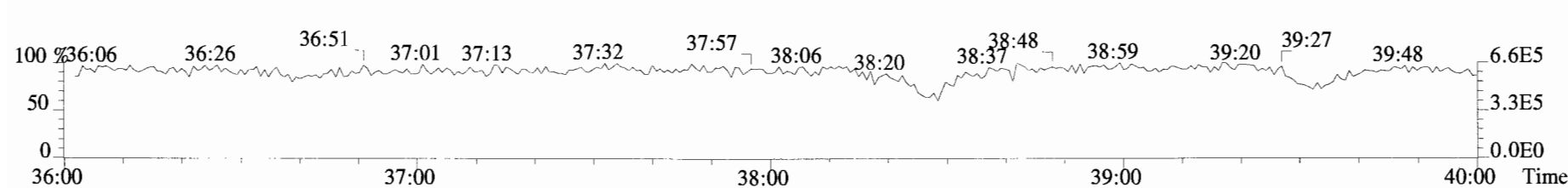
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



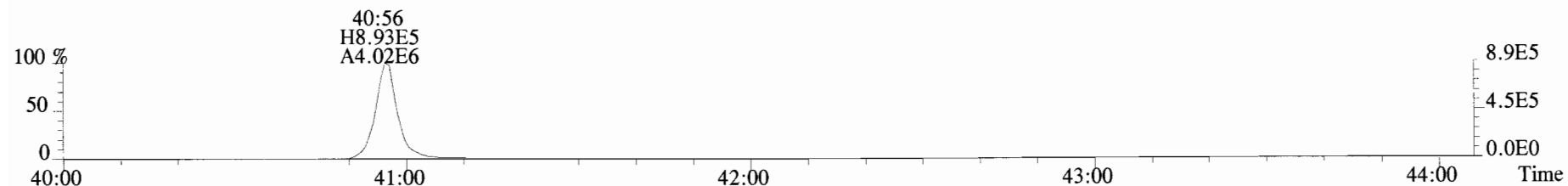
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



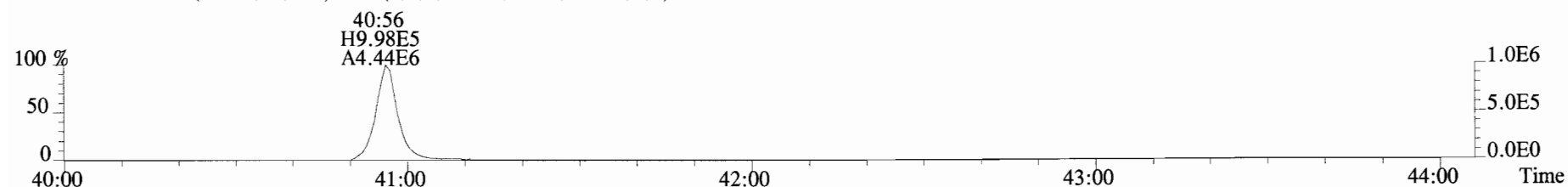
454.9728 F:4



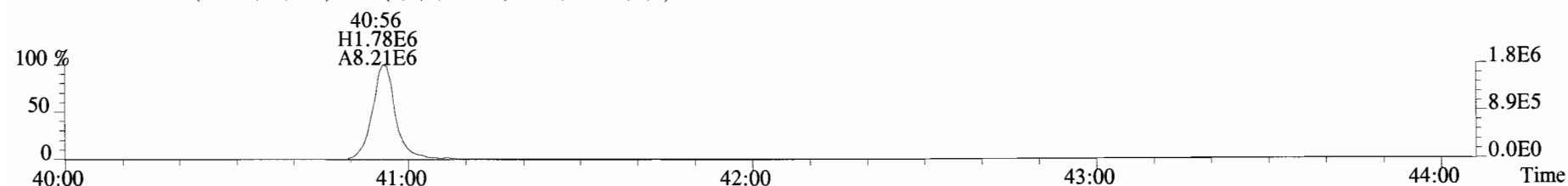
File:190627D2 #1-431 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



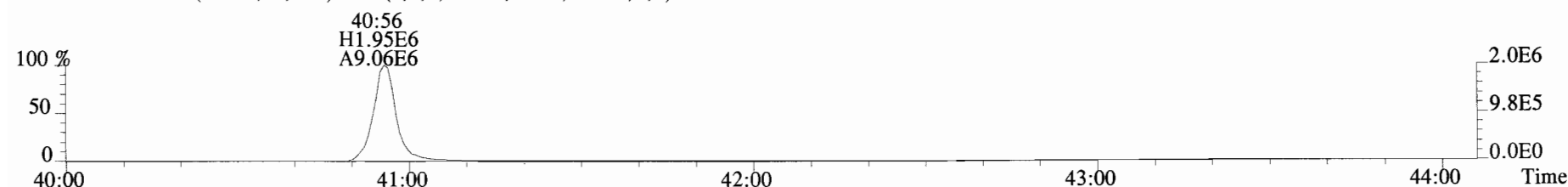
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



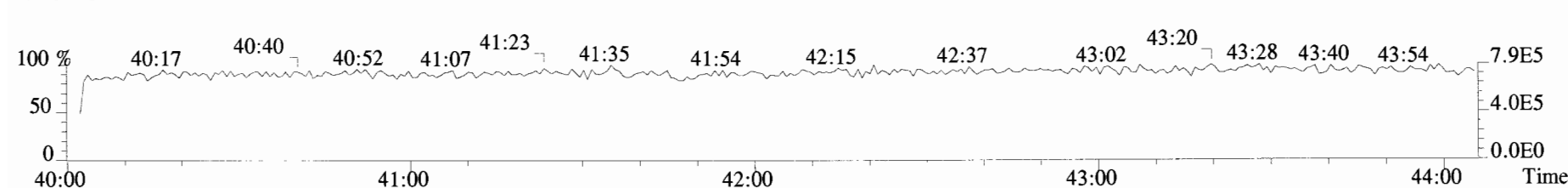
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



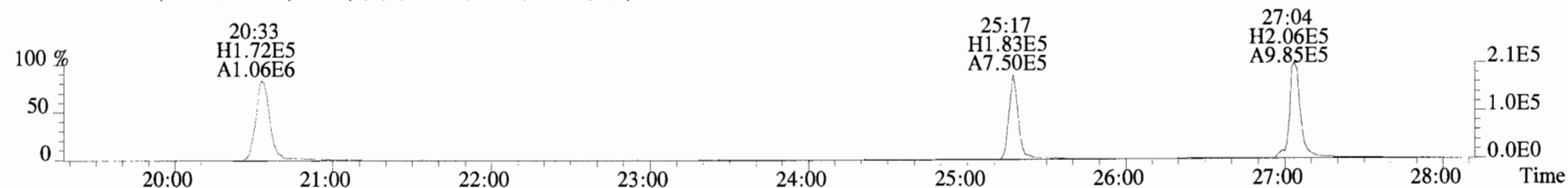
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



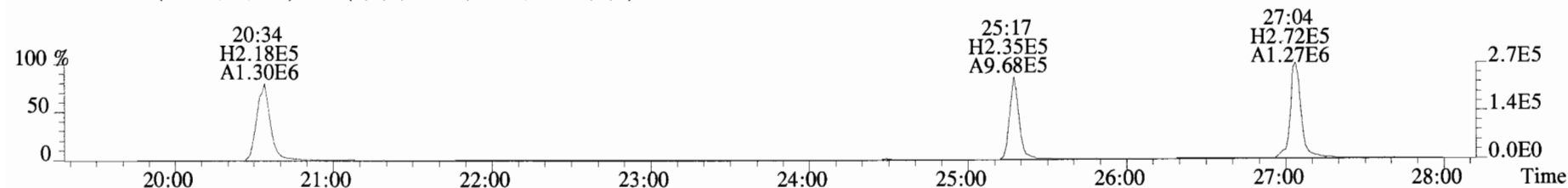
454.9728 F:5



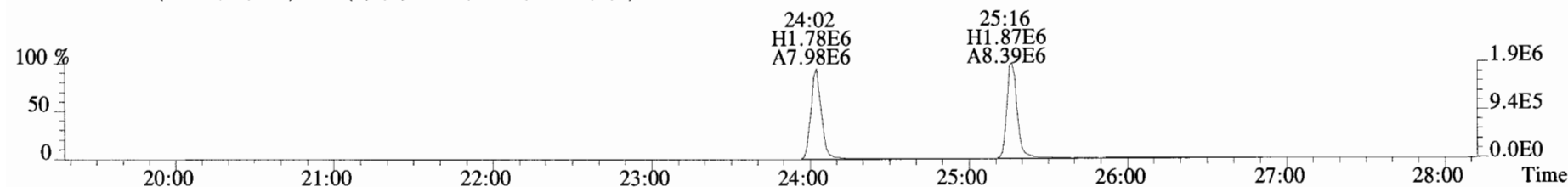
File:190627D2 #1-514 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



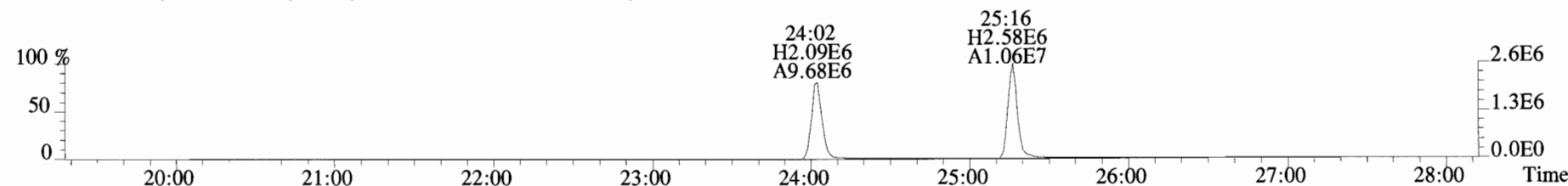
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



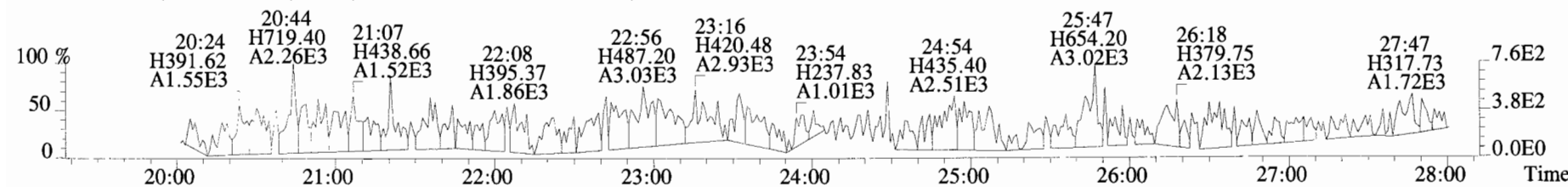
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



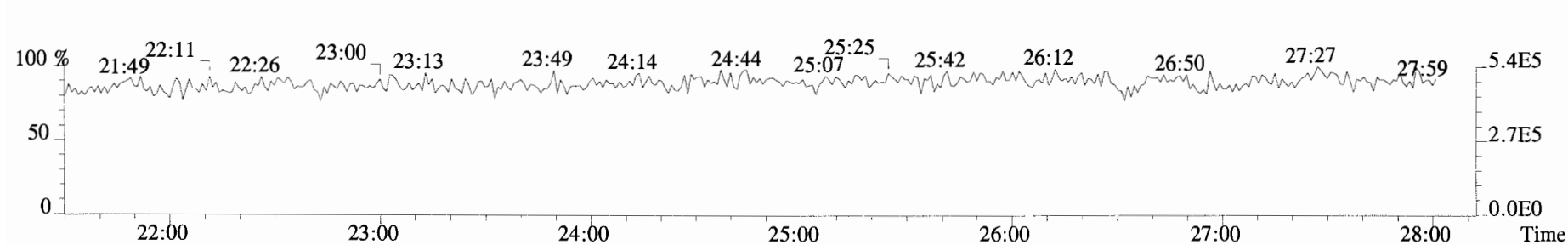
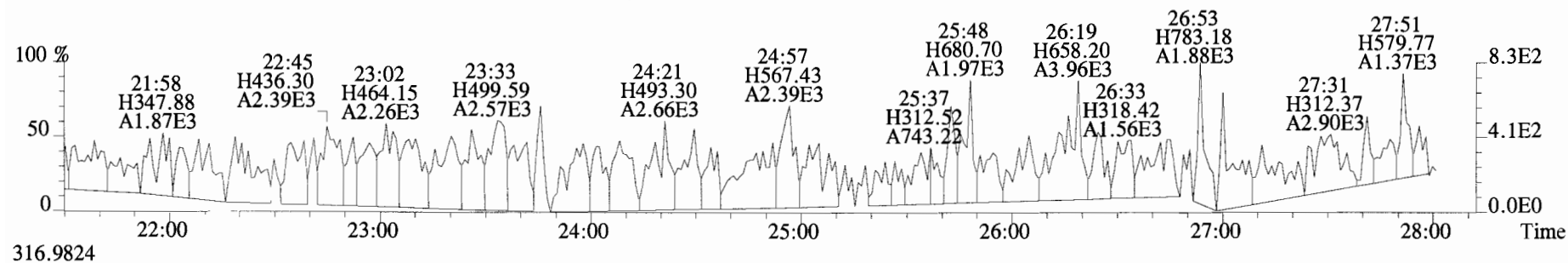
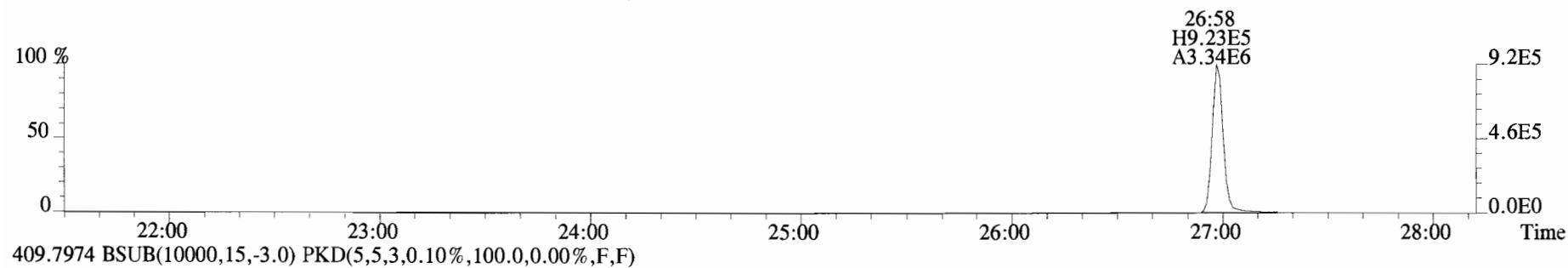
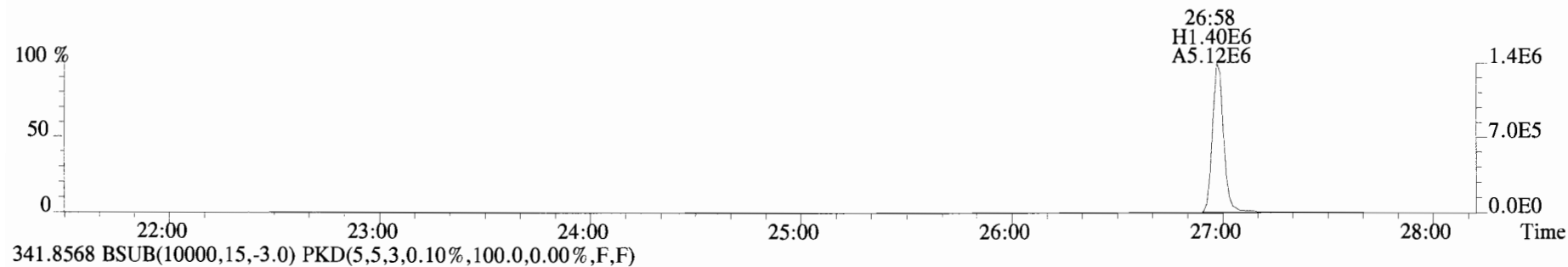
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



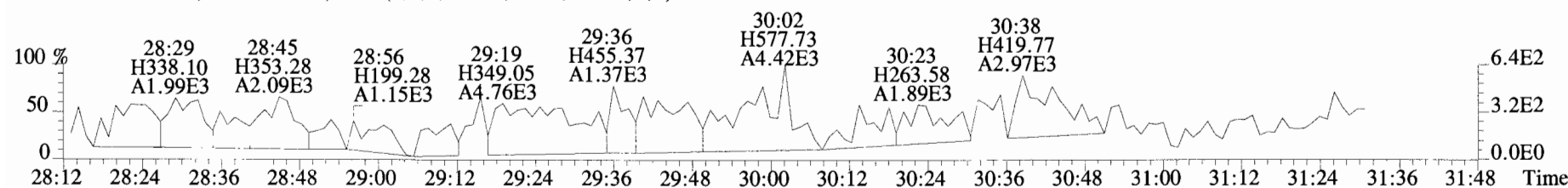
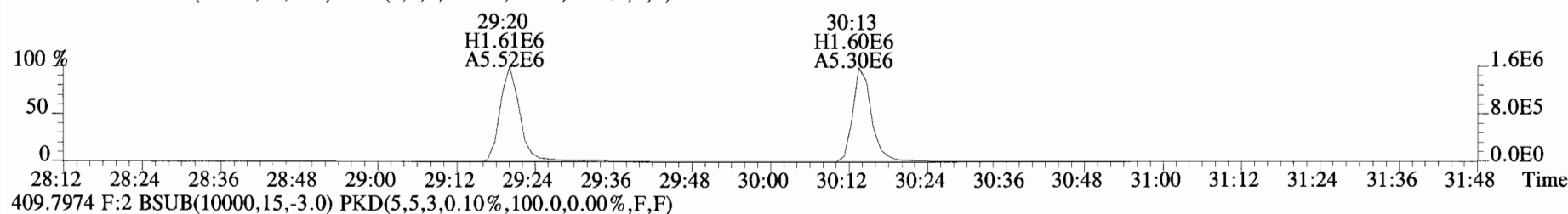
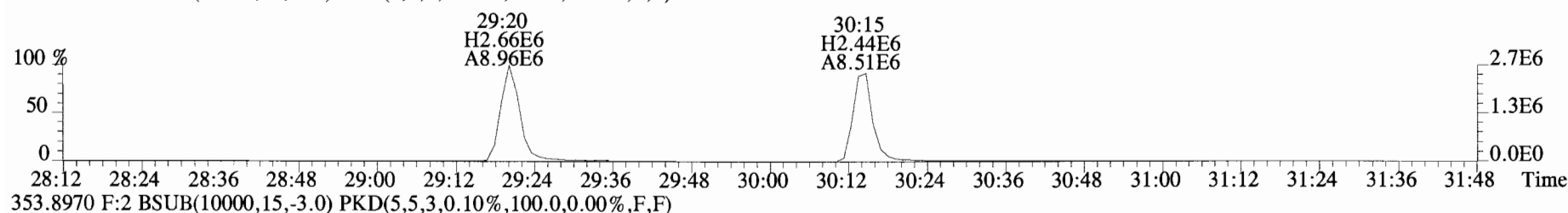
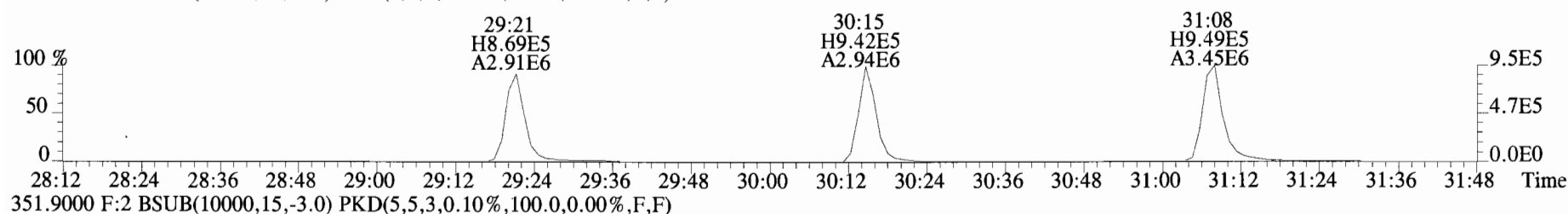
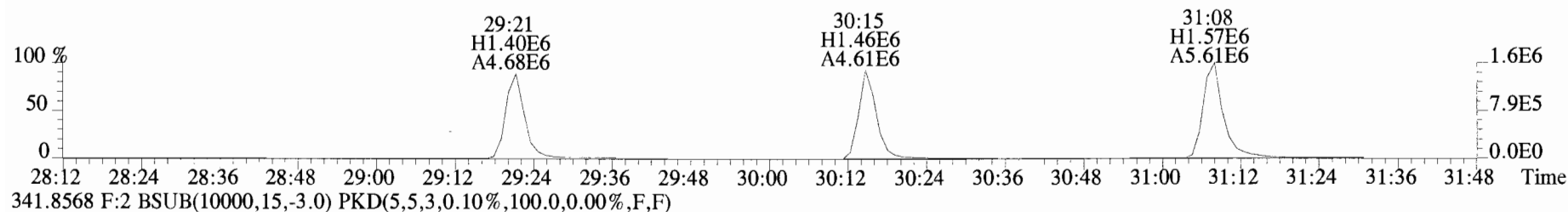
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



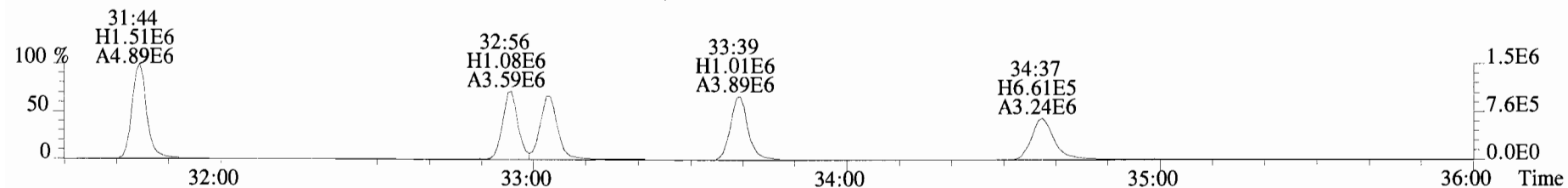
File:190627D2 #1-514 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



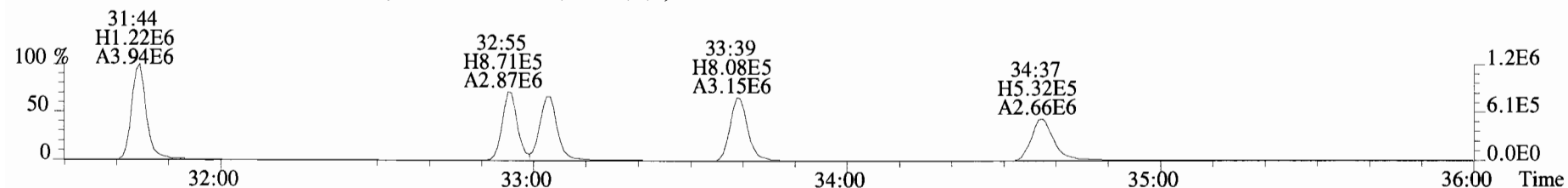
File:190627D2 #1-184 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



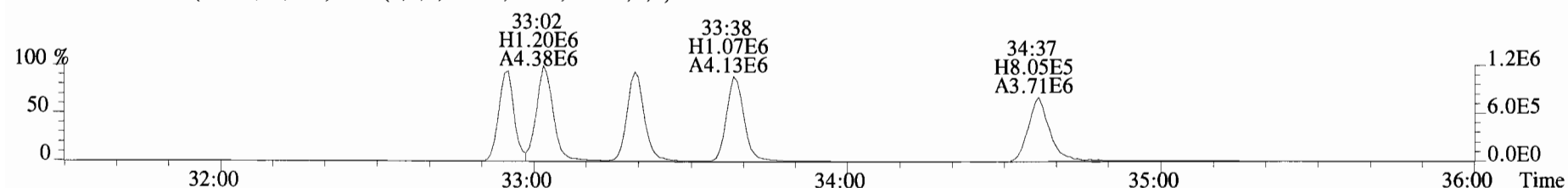
File:190627D2 #1-399 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



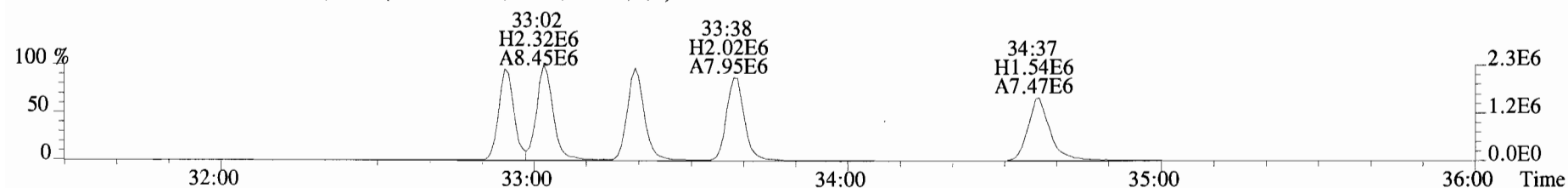
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



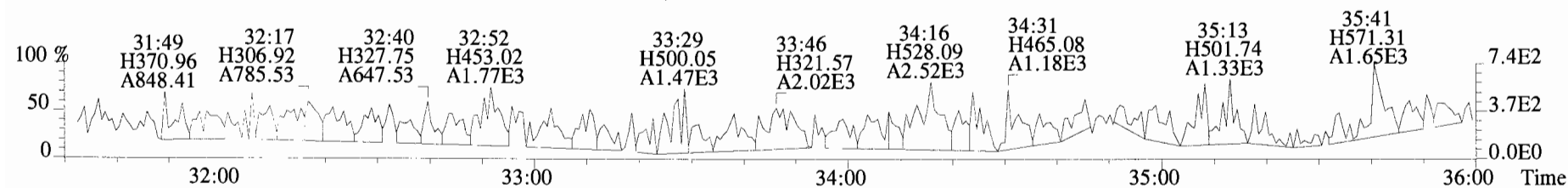
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



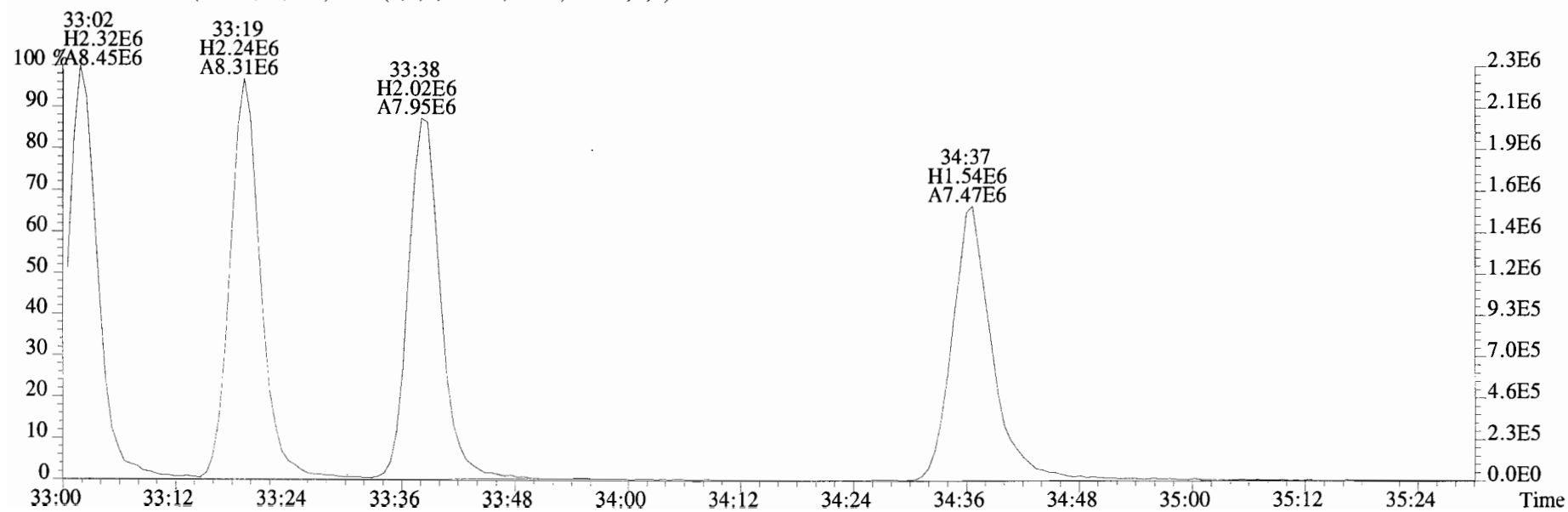
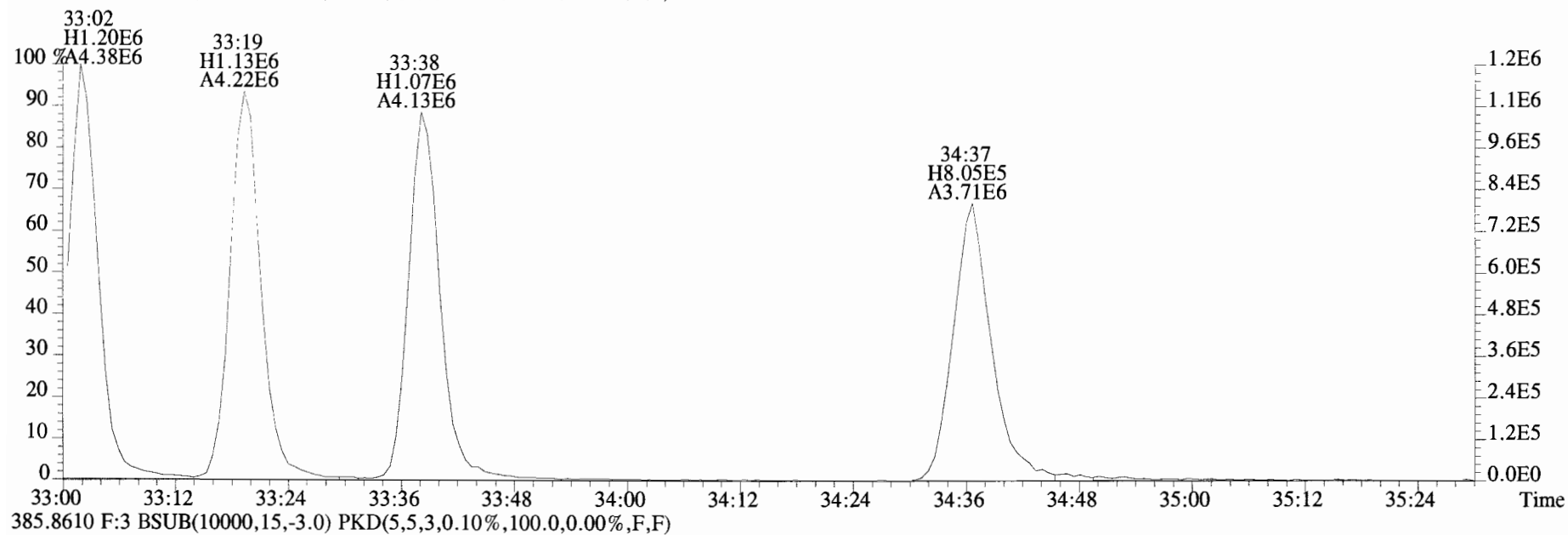
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



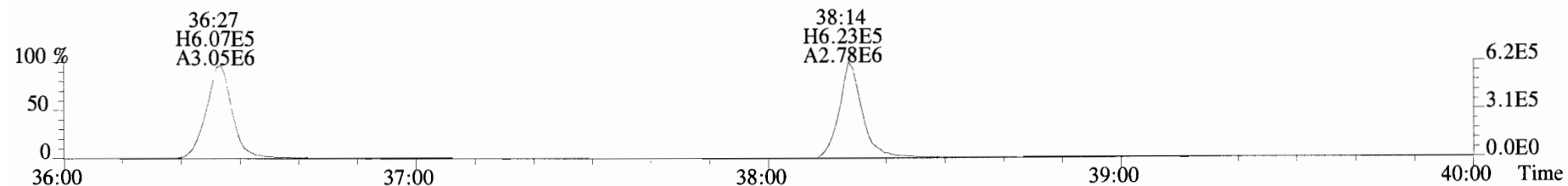
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



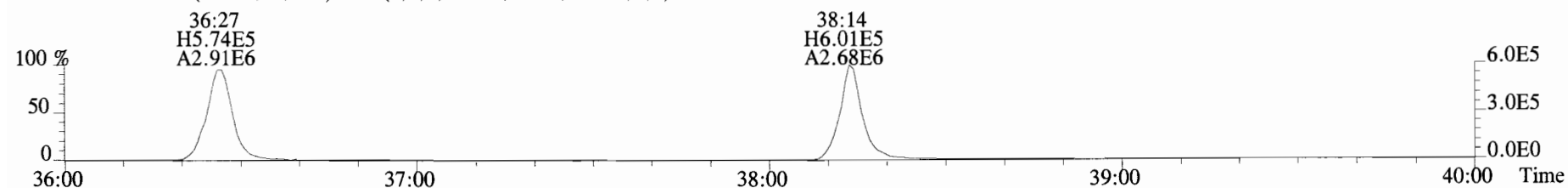
File:190627D2 #1-399 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



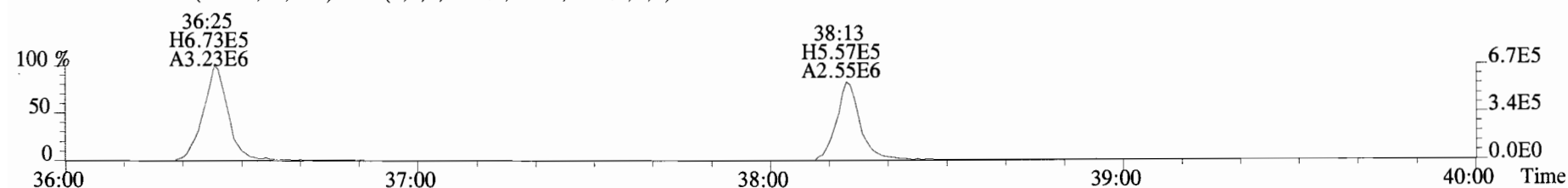
File:190627D2 #1-356 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



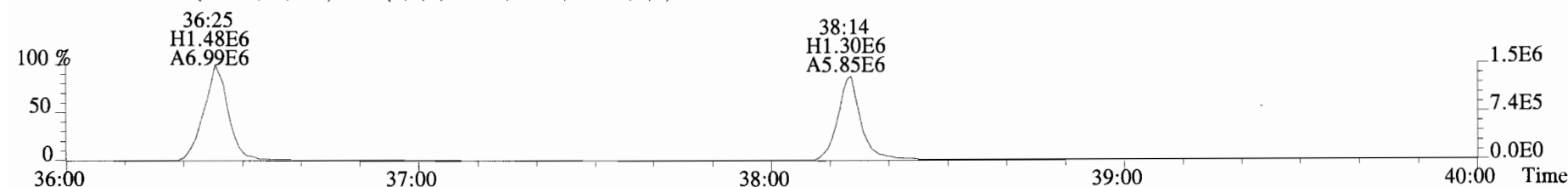
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



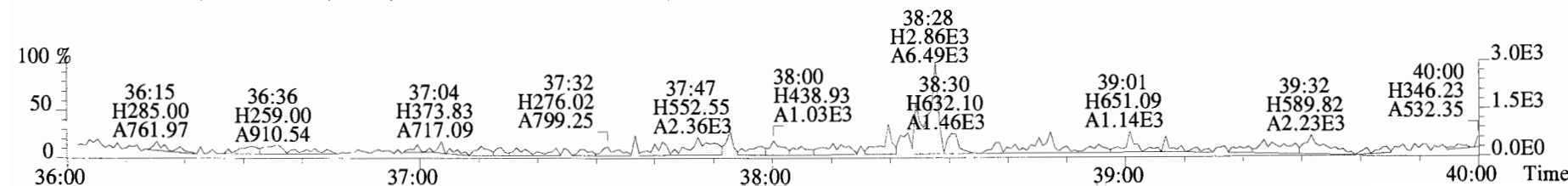
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



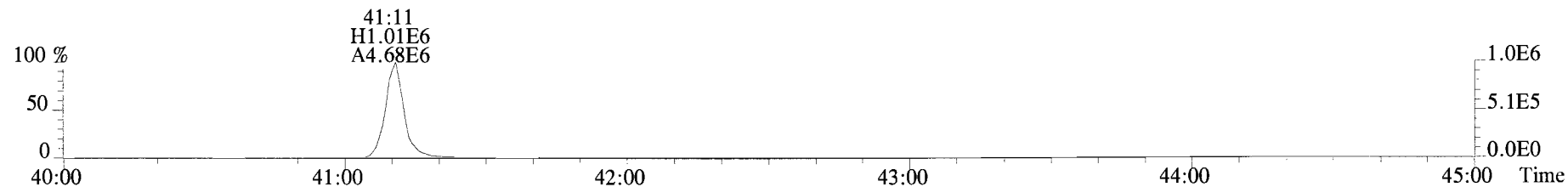
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



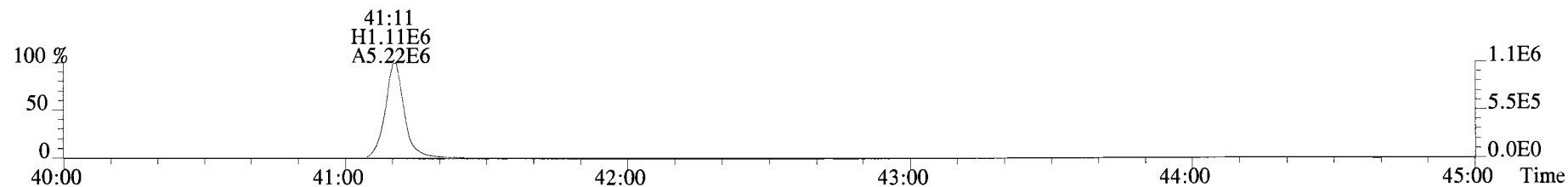
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



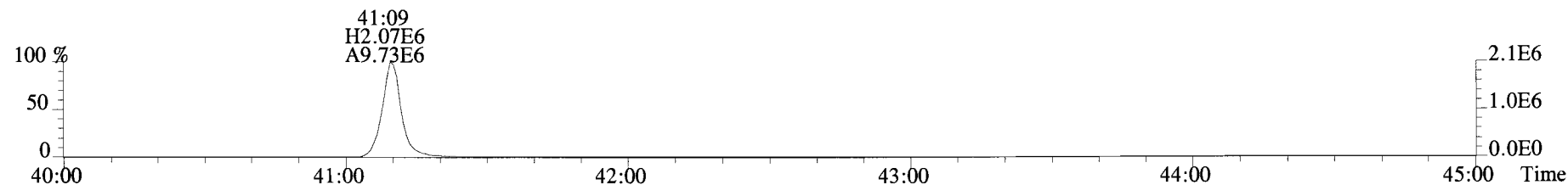
File:190627D2 #1-431 Acq:28-JUN-2019 05:07:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190627D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



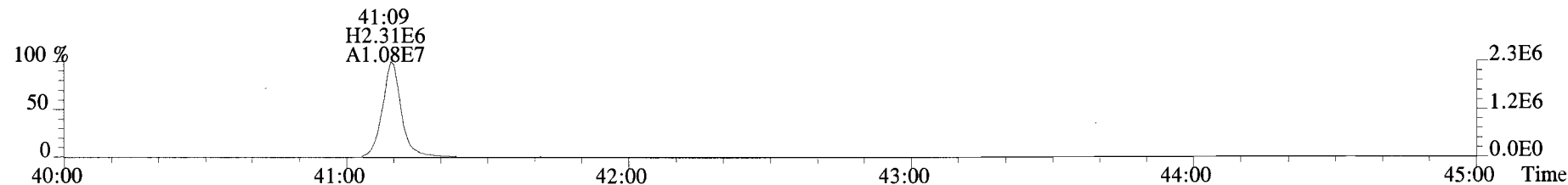
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



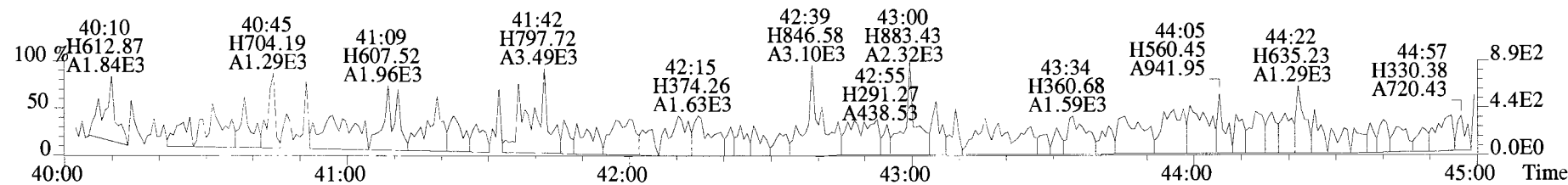
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

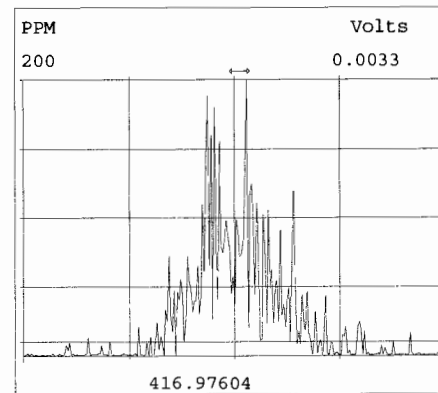
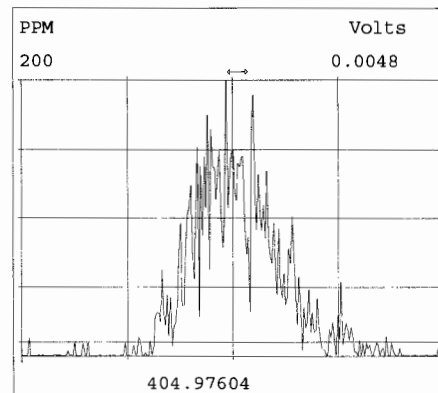
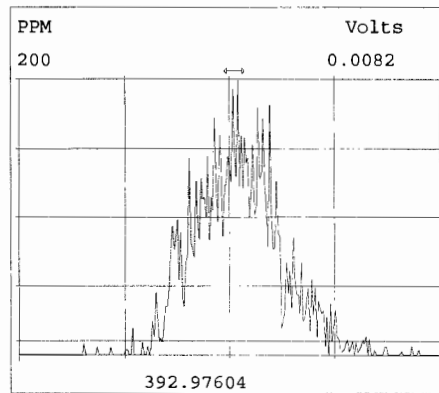
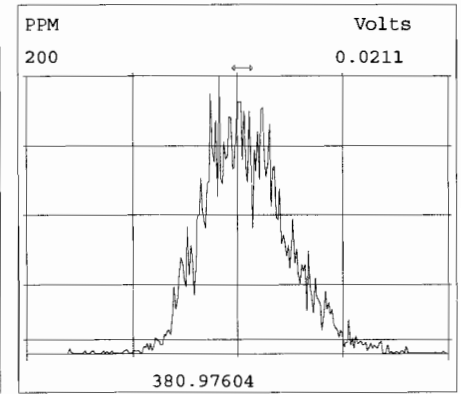
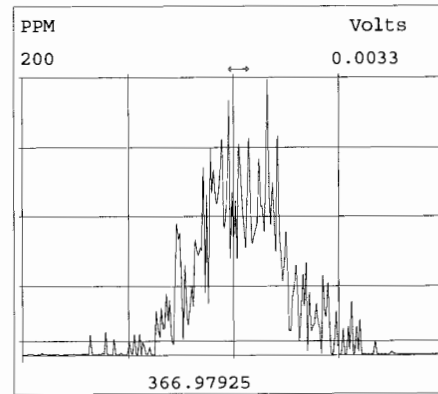
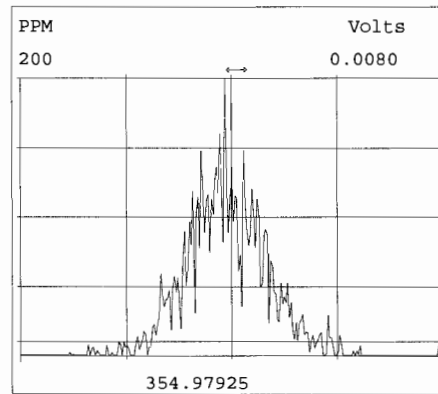
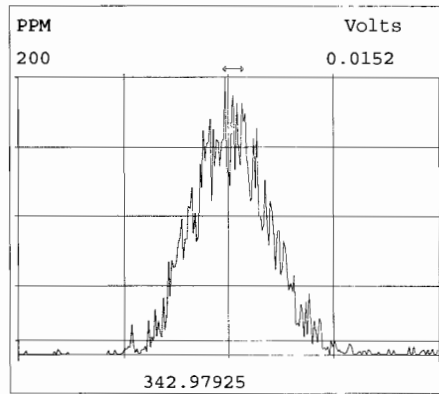
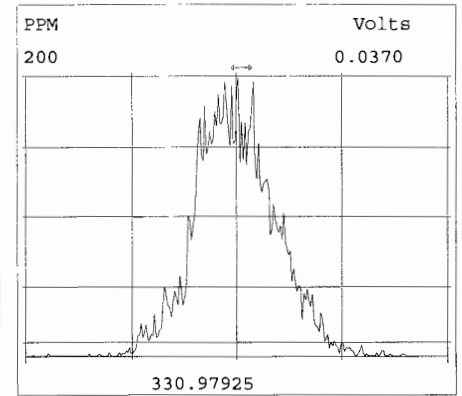
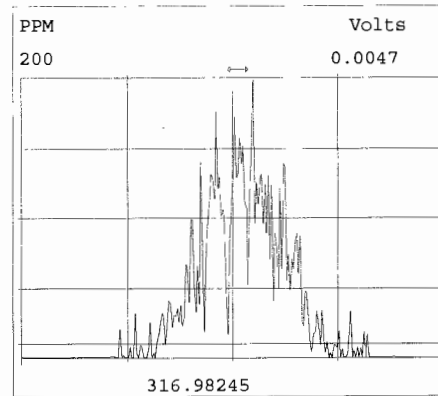
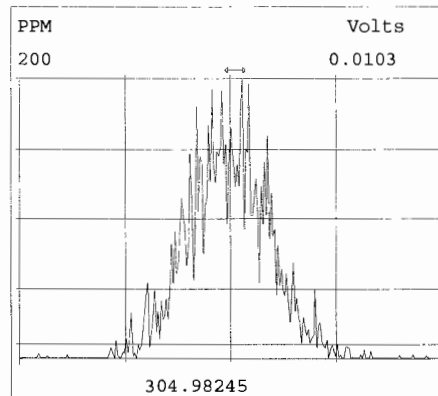
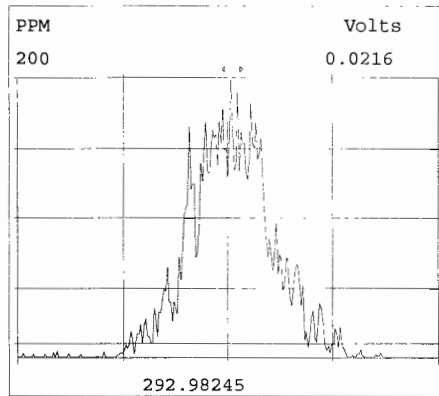


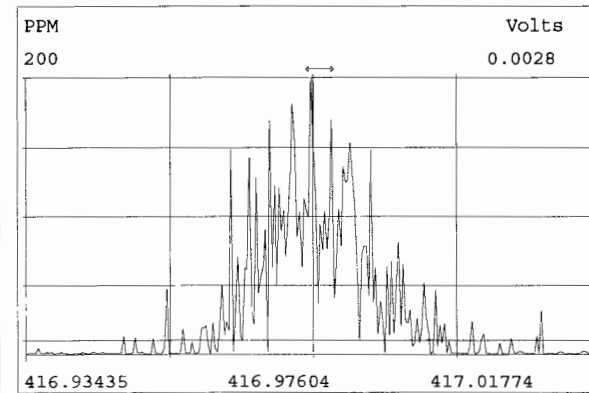
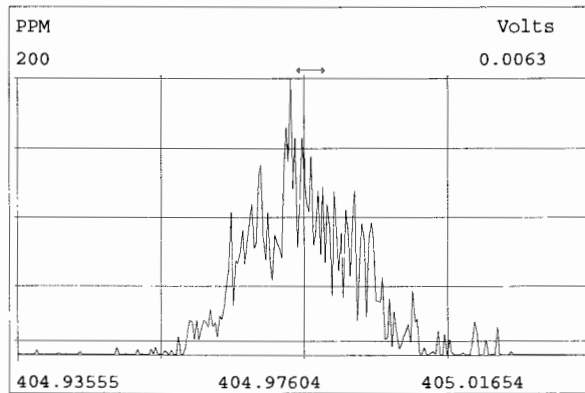
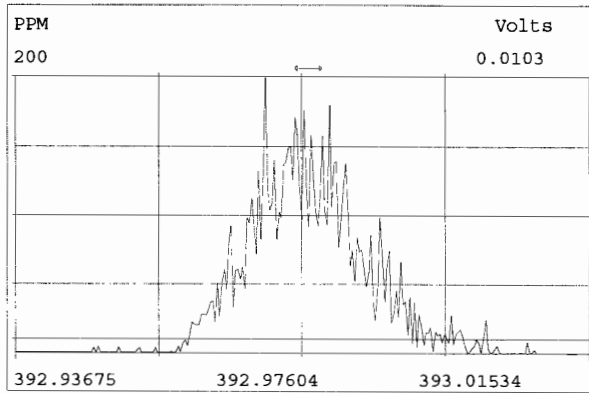
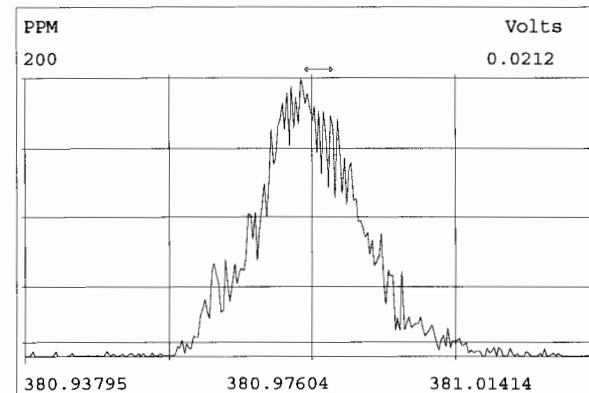
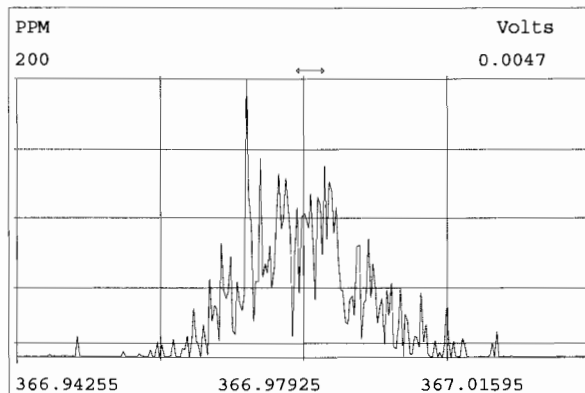
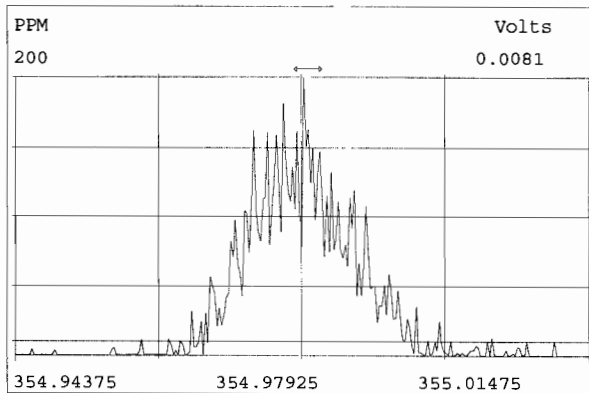
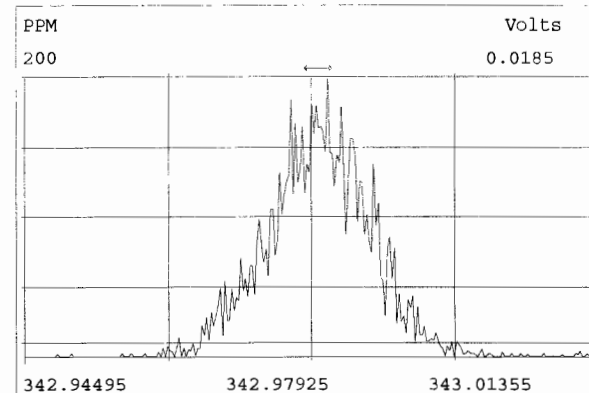
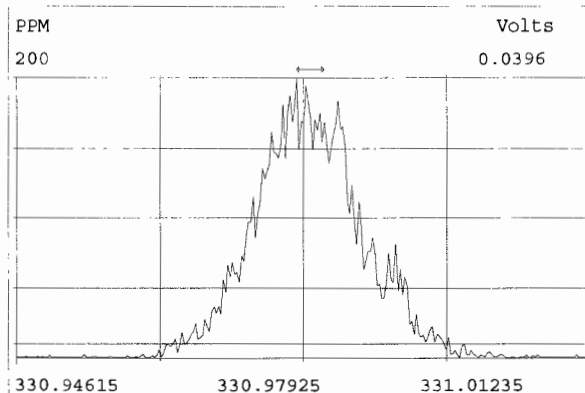
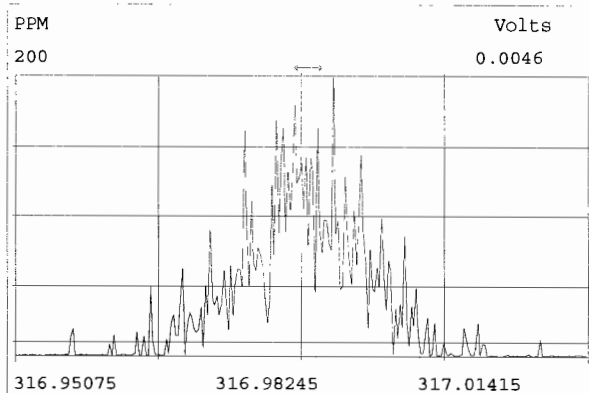
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Peak Locate Examination:28-JUN-2019:14:01 File:RES_CHECK

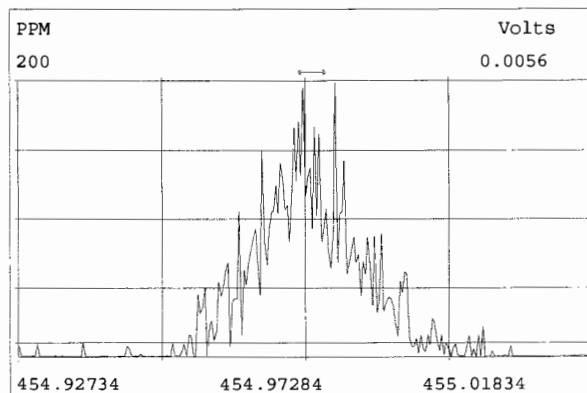
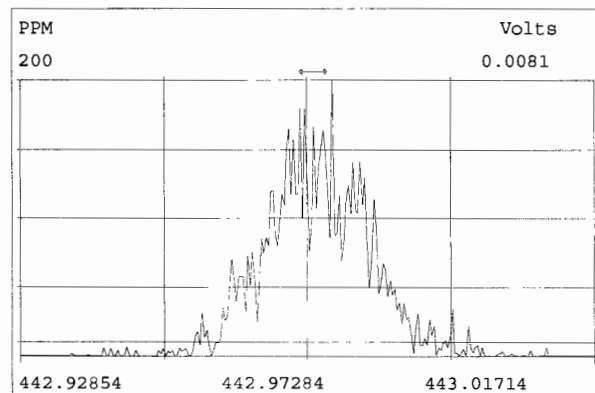
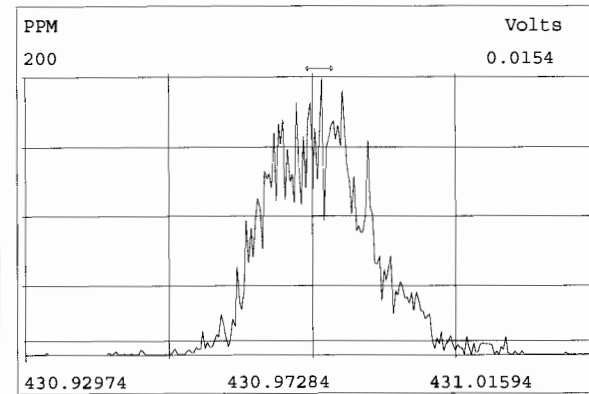
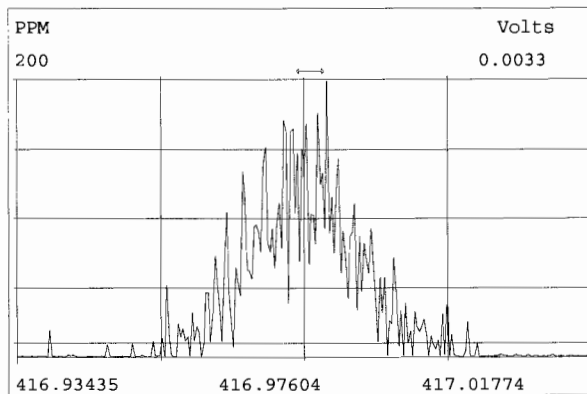
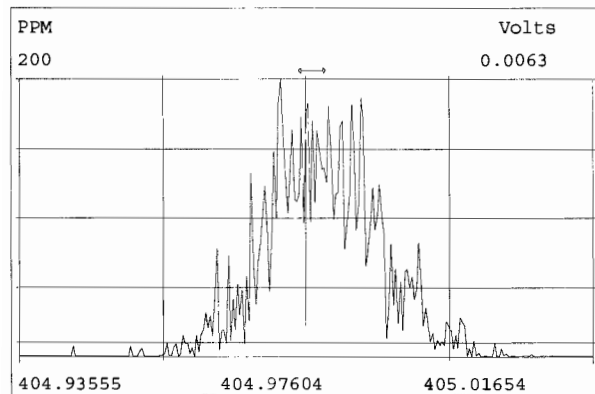
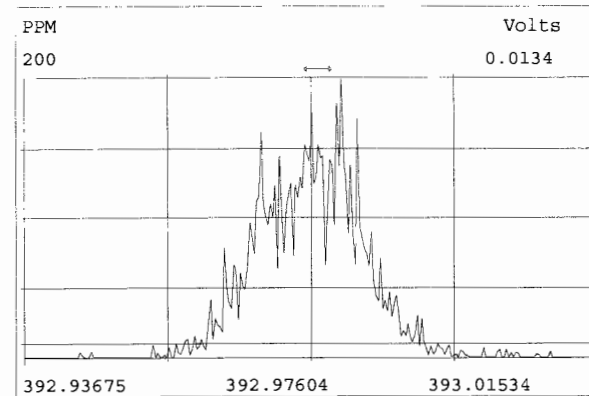
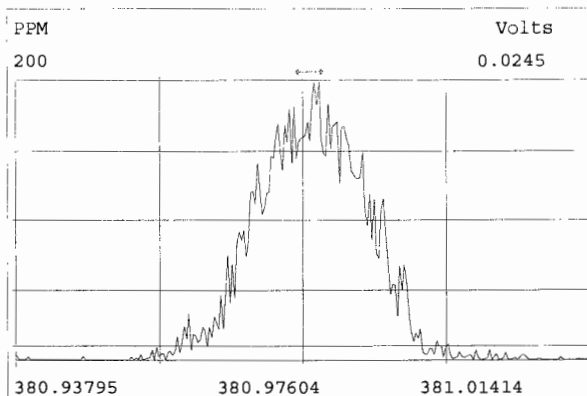
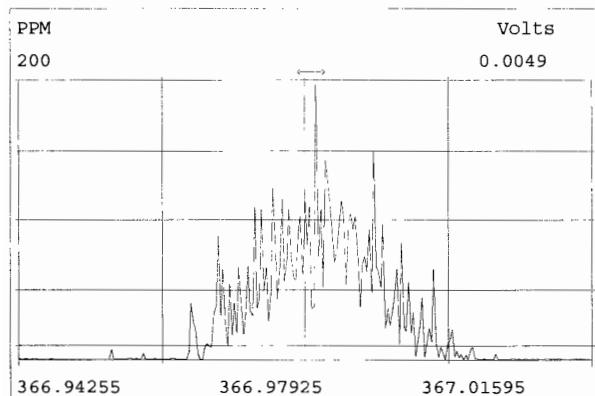
Experiment:OCDD_DB5 Function:1 Reference:PFK





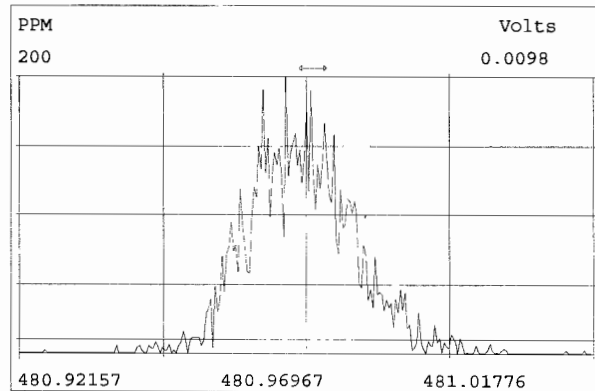
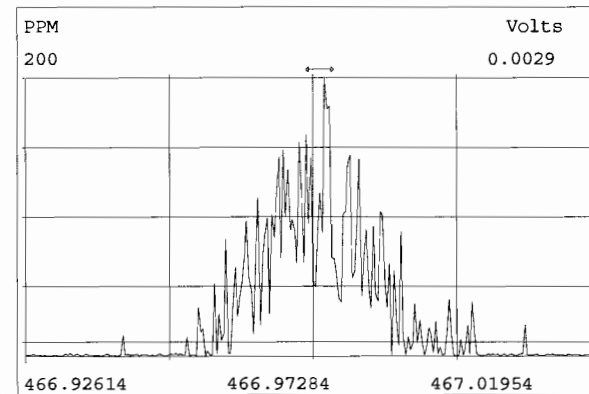
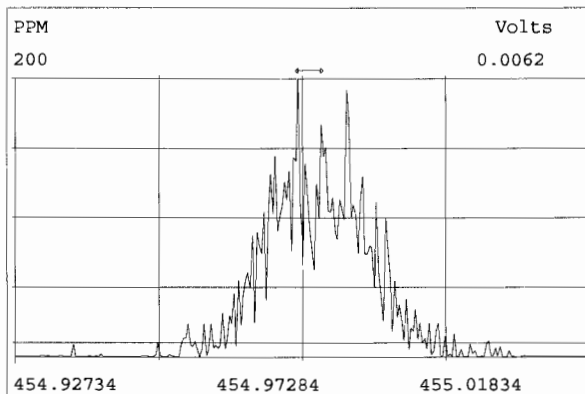
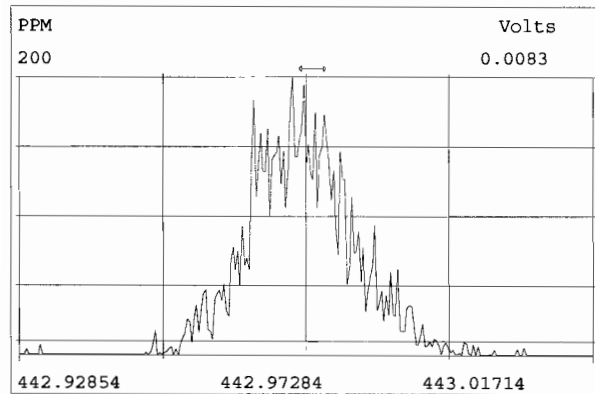
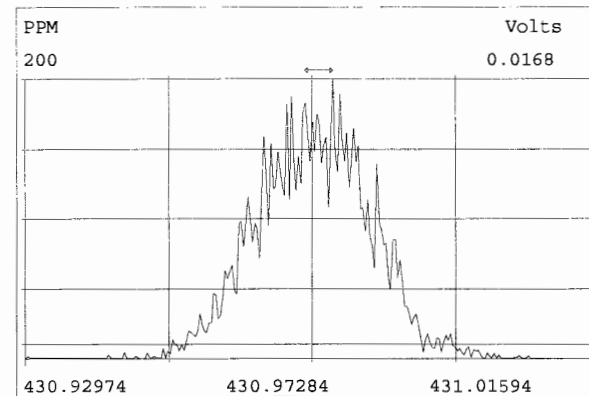
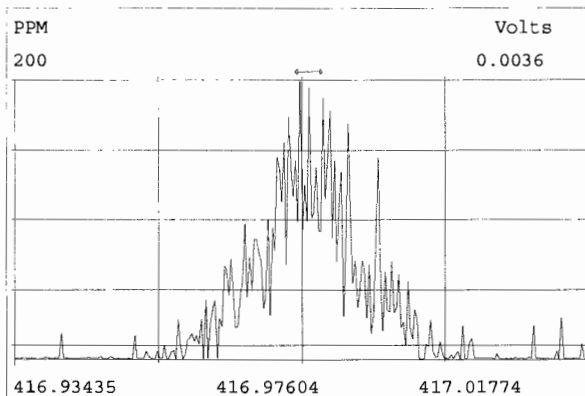
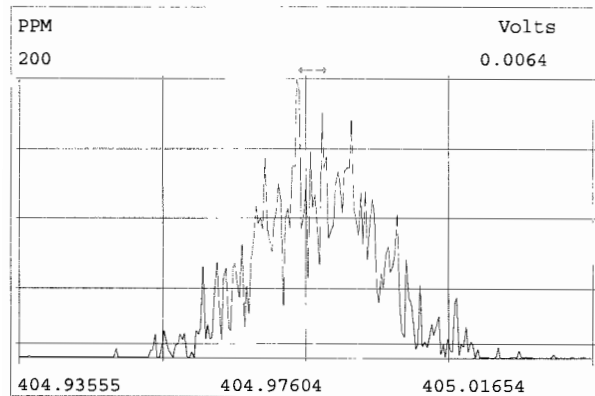
Peak Locate Examination:28-JUN-2019:14:03 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK



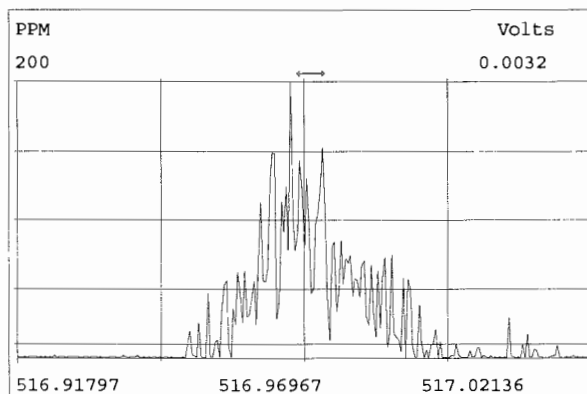
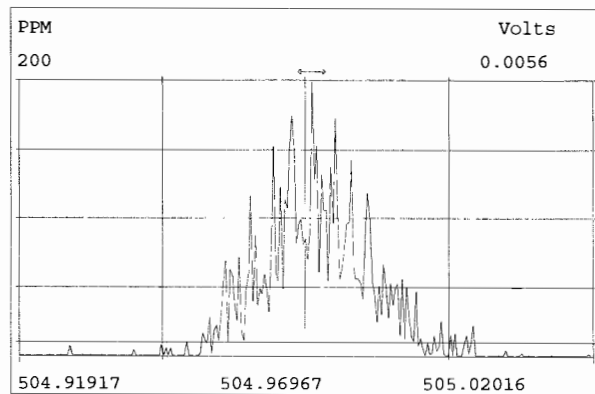
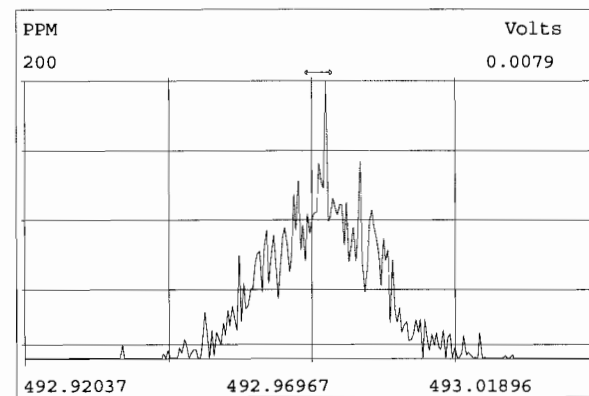
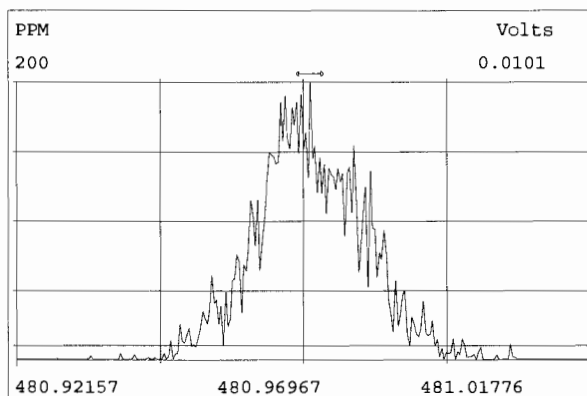
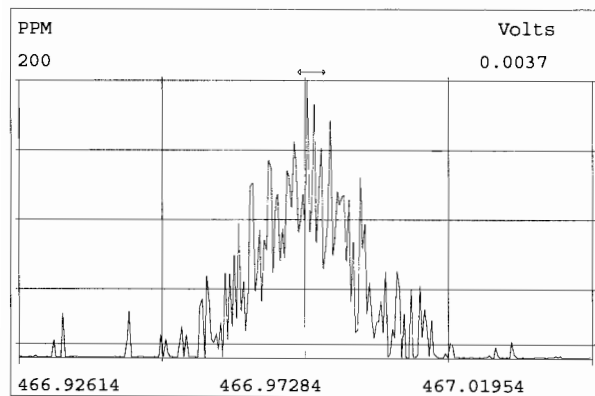
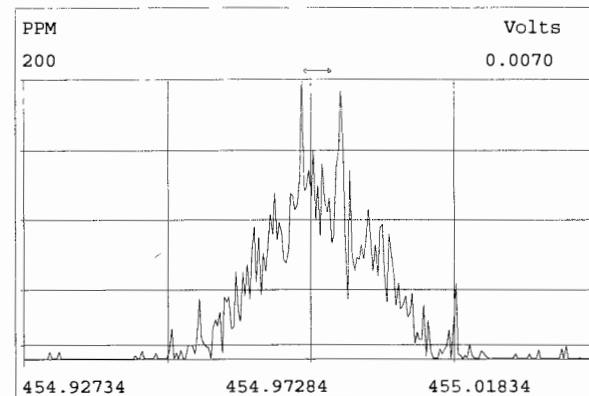
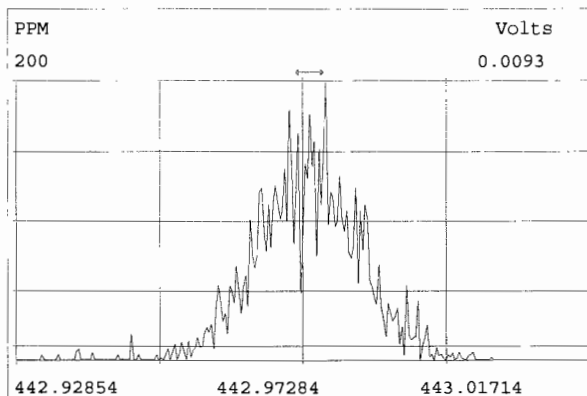
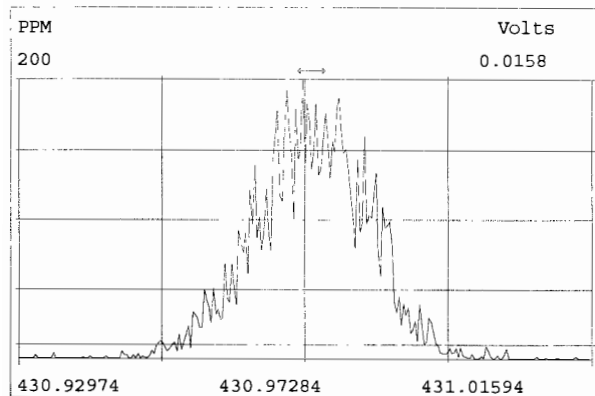
Peak Locate Examination:28-JUN-2019:14:04 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination:28-JUN-2019:14:05 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST19071201-1

Reviewed By: C7 07/15/19
Initials & Date

End Calibration ID: NA

	Beg.	End
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
Concentrations within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TCDD/TCDF Valleys <25%	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<u>Db</u>	<input type="checkbox"/>
Run Log:		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
- Bottle position verified?	<u>Db</u>	

	Beg.	End
Mass resolution \geq	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 5k <input type="checkbox"/> 6-8K <input type="checkbox"/> 8K <input checked="" type="checkbox"/> 10K 1614 1699 429 1613/1668/8280		
Intergrated peaks display correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
GC Break <20%		<input type="checkbox"/> NA
8280 CS1 End Standard:		
- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		<input type="checkbox"/> NA

Comments:

Vista Analytical Laboratory - Injection Log Run file: 190712D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190712D1	1	ST190712D1-1	DB	12-JUL-19	13:34:45	ST190712D1-1	NA
190712D1	2	B9G0073-BS1	DB	12-JUL-19	14:22:36	ST190712D1-1	NA
190712D1	3	B9G0085-BS1	DB	12-JUL-19	15:10:23	ST190712D1-1	NA
190712D1	4	B9G0106-BS1	DB	12-JUL-19	15:58:10	ST190712D1-1	NA
190712D1	5	SOLVENT BLANK	DB	12-JUL-19	16:45:56	ST190712D1-1	NA
190712D1	6	B9G0073-BLK1	DB	12-JUL-19	17:33:39	ST190712D1-1	NA
190712D1	7	B9G0085-BLK1	DB	12-JUL-19	18:21:20	ST190712D1-1	NA
190712D1	8	B9G0106-BLK1	DB	12-JUL-19	19:09:03	ST190712D1-1	NA
190712D1	9	1901246-09RE1	DB	12-JUL-19	19:56:54	ST190712D1-1	NA
190712D1	10	1901246-13RE1	DB	12-JUL-19	20:44:44	ST190712D1-1	NA
190712D1	11	1901246-14RE1	DB	12-JUL-19	21:32:20	ST190712D1-1	NA
190712D1	12	B9G0073-DUP1	DB	12-JUL-19	22:19:56	ST190712D1-1	NA
190712D1	13	1901246-16RE1	DB	12-JUL-19	23:07:31	ST190712D1-1	NA

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190712D1-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190712D1 S#1 Analysis Date: 12-JUL-19 Time: 13:34:45

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	y	11.0	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	53.0	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	51.3	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	50.0	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.05-1.43	y	50.7	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	47.3	43.0 - 58.0
OCDD	M+2/M+4	0.88	0.76-1.02	y	95.9	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	y	9.35	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.65	1.32-1.78	y	55.2	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	y	54.6	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	y	50.2	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	51.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	52.4	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05-1.43	y	52.2	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88-1.20	y	52.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88-1.20	y	49.9	43.0 - 58.0
OCDF	M+2/M+4	0.89	0.76-1.02	y	98.3	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 7/12/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190712D1 S#1 Analysis Date: 12-JUL-19 Time: 13:34:45

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	y	102	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	94.7	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05-1.43	y	106	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	98.3	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	y	103	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	110	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	237	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.79	0.65-0.89	y	99.3	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	y	85.9	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	86.8	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	105	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	98.2	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	99.5	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	105	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	y	105	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.45	0.37-0.51	y	107	77.0 - 129.0
13C-OCDF	M+2/M+4	0.87	0.76-1.02	y	215	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.92	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 7/12/19

FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 5-10-19

RT Window Data Filename: 190712D1 S#1 Analysis Date: 12-JUL-19 Time: 13:34:45

ZB-5MS IS Data Filename: 190712D1 S#1 Analysis Date: 12-JUL-19 Time: 13:34:45

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:31	1,3,6,8-TCDF (F)	21:33
1,2,8,9-TCDD (L)	27:28	1,2,8,9-TCDF (L)	27:38
1,2,4,7,9-PeCDD (F)	28:59	1,3,4,6,8-PeCDF (F)	27:33
1,2,3,8,9-PeCDD (L)	31:19	1,2,3,8,9-PeCDF (L)	31:34
1,2,4,6,7,9-HxCDD (F)	32:43	1,2,3,4,6,8-HxCDF (F)	32:11
1,2,3,7,8,9-HxCDD (L)	34:44	1,2,3,7,8,9-HxCDF (L)	35:09
1,2,3,4,6,7,9-HpCDD (F)	37:17	1,2,3,4,6,7,8-HpCDF (F)	36:58
1,2,3,4,6,7,8-HpCDD (L)	38:06	1,2,3,4,7,8,9-HpCDF (L)	38:41

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DBDate: 7/12/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190712D1 S#1 Analysis Date: 12-JUL-19 Time: 13:34:45

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.021	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.186	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.143	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.176	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.021	0.989-1.052

Analyst: DBDate: 7/12/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190712D1 S#1 Analysis Date: 12-JUL-19 Time: 13:34:45

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.987	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.018	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.143	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.127	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.226	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.233	1.091-1.371

Analyst: DB

Date: 7/12/19

Client ID: 1613 CS3 19C2204
Lab ID: ST190712D1-1

Filename: 190712D1 S:1 Acq:12-JUL-19 13:34:45
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190712D1-1
EndCAL: NA

Page 1 of 1

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	1.08e+06	0.80 y	0.90	26:40	11.005		* 2.5		*
	1,2,3,7,8-PeCDD	4.14e+06	0.62 y	0.87	30:58	52.976		* 2.5		*
	1,2,3,4,7,8-HxCDD	4.08e+06	1.21 y	1.05	34:19	51.328		* 2.5		*
	1,2,3,6,7,8-HxCDD	4.06e+06	1.22 y	0.93	34:26	49.963		* 2.5		*
	1,2,3,7,8,9-HxCDD	4.29e+06	1.20 y	0.96	34:44	50.688		* 2.5		*
	1,2,3,4,6,7,8-HpCDD	3.74e+06	1.04 y	0.99	38:06	47.282		* 2.5		*
	OCDD	7.38e+06	0.88 y	0.99	41:28	95.894		* 2.5		*
	2,3,7,8-TCDF	1.45e+06	0.75 y	0.94	25:57	9.3450		* 2.5		*
	1,2,3,7,8-PeCDF	6.59e+06	1.65 y	0.92	29:50	55.238		* 2.5		*
	2,3,4,7,8-PeCDF	6.70e+06	1.56 y	0.96	30:42	54.585		* 2.5		*
	1,2,3,4,7,8-HxCDF	5.50e+06	1.26 y	1.15	33:24	50.238		* 2.5		*
	1,2,3,6,7,8-HxCDF	5.65e+06	1.24 y	1.04	33:32	51.308		* 2.5		*
	2,3,4,6,7,8-HxCDF	5.75e+06	1.23 y	1.10	34:09	52.367		* 2.5		*
	1,2,3,7,8,9-HxCDF	5.15e+06	1.27 y	1.03	35:09	52.189		* 2.5		*
	1,2,3,4,6,7,8-HpCDF	4.96e+06	1.00 y	1.06	36:58	52.131		* 2.5		*
	1,2,3,4,7,8,9-HpCDF	4.38e+06	1.00 y	1.23	38:41	49.904		* 2.5		*
	OCDF	8.20e+06	0.89 y	0.94	41:44	98.339		* 2.5		*
IS	13C-2,3,7,8-TCDD	1.09e+07	0.78 y	1.11	26:39	101.95				
IS	13C-1,2,3,7,8-PeCDD	8.97e+06	0.63 y	0.98	30:57	94.687				
IS	13C-1,2,3,4,7,8-HxCDD	7.57e+06	1.33 y	0.68	34:17	106.07				
IS	13C-1,2,3,6,7,8-HxCDD	8.73e+06	1.29 y	0.84	34:25	98.270				
IS	13C-1,2,3,7,8,9-HxCDD	8.79e+06	1.27 y	0.81	34:43	102.52				
IS	13C-1,2,3,4,6,7,8-HpCDD	8.00e+06	1.05 y	0.69	38:06	110.46				
IS	13C-OCDD	1.56e+07	0.90 y	0.62	41:28	236.51				
IS	13C-2,3,7,8-TCDF	1.65e+07	0.79 y	1.05	25:56	99.275				
IS	13C-1,2,3,7,8-PeCDF	1.29e+07	1.63 y	0.95	29:50	85.864				
IS	13C-2,3,4,7,8-PeCDF	1.28e+07	1.59 y	0.94	30:42	86.818				
IS	13C-1,2,3,4,7,8-HxCDF	9.49e+06	0.51 y	0.86	33:23	104.92				
IS	13C-1,2,3,6,7,8-HxCDF	1.06e+07	0.51 y	1.02	33:31	98.246				
IS	13C-2,3,4,6,7,8-HxCDF	1.00e+07	0.51 y	0.95	34:08	99.530				
IS	13C-1,2,3,7,8,9-HxCDF	9.58e+06	0.52 y	0.87	35:08	104.59				
IS	13C-1,2,3,4,6,7,8-HpCDF	8.93e+06	0.44 y	0.81	36:57	104.64				
IS	13C-1,2,3,4,7,8,9-HpCDF	7.16e+06	0.45 y	0.63	38:40	107.28				
IS	13C-OCDF	1.77e+07	0.87 y	0.78	41:43	214.85				
C/Up	37C1-2,3,7,8-TCDD	1.17e+06		1.22	26:40	9.9181				
RS/RT	13C-1,2,3,4-TCDD	9.71e+06	0.81 y	1.00	26:06	100.00				
RS	13C-1,2,3,4-TCDF	1.58e+07	0.79 y	1.00	24:47	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.06e+07	0.51 y	1.00	33:49	100.00				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	79.2	79.5		*	*
Total Penta-Dioxins	192	192		*	*
Total Hexa-Dioxins	221	222		*	*
Total Hepta-Dioxins	110	111		*	*
Total Tetra-Furans	34.0	35.3		*	*
Total Penta-Furans	241.54	241.85		*	*
Total Hexa-Furans	273	273		*	*
Total Hepta-Furans	102	103		*	*

Rec Qual

102
94.7
106
98.3
103
110
118
99.3
85.9
86.8
105
98.2
99.5
105
105
107
107

99.2

Integrations
by
Analyst: DB

Reviewed
by
Analyst: CT

Date: 7/12/19

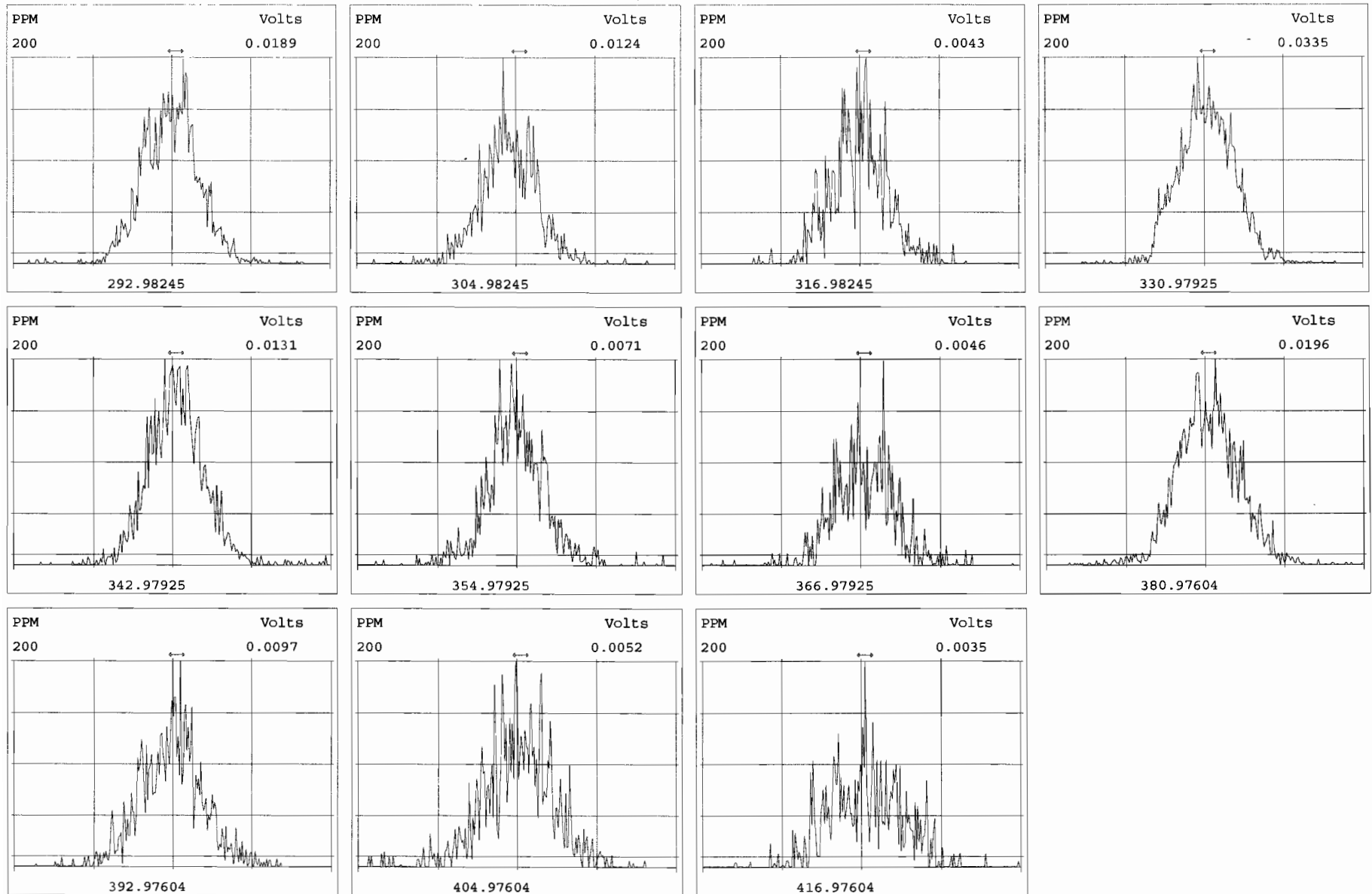
Date: 07/15/19

Vista Analytical Laboratory - Injection Log Run file: 190712D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
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190712D1	3	B9G0085-BS1	DB	12-JUL-19	15:10:23	ST190712D1-1	NA
190712D1	4	B9G0106-BS1	DB	12-JUL-19	15:58:10	ST190712D1-1	NA
190712D1	5	SOLVENT BLANK	DB	12-JUL-19	16:45:56	ST190712D1-1	NA
190712D1	6	B9G0073-BLK1	DB	12-JUL-19	17:33:39	ST190712D1-1	NA
190712D1	7	B9G0085-BLK1	DB	12-JUL-19	18:21:20	ST190712D1-1	NA
190712D1	8	B9G0106-BLK1	DB	12-JUL-19	19:09:03	ST190712D1-1	NA
190712D1	9	1901246-09RE1	DB	12-JUL-19	19:56:54	ST190712D1-1	NA
190712D1	10	1901246-13RE1	DB	12-JUL-19	20:44:44	ST190712D1-1	NA
190712D1	11	1901246-14RE1	DB	12-JUL-19	21:32:20	ST190712D1-1	NA
190712D1	12	B9G0073-DUP1	DB	12-JUL-19	22:19:56	ST190712D1-1	NA
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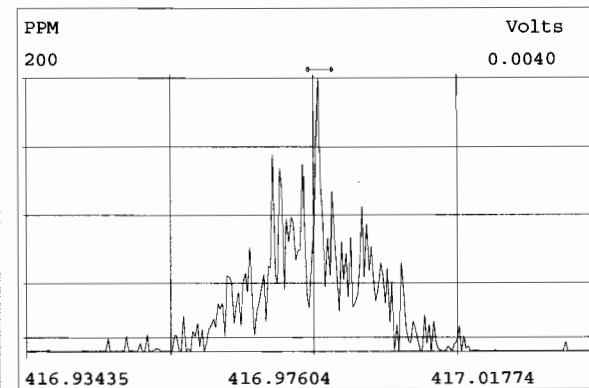
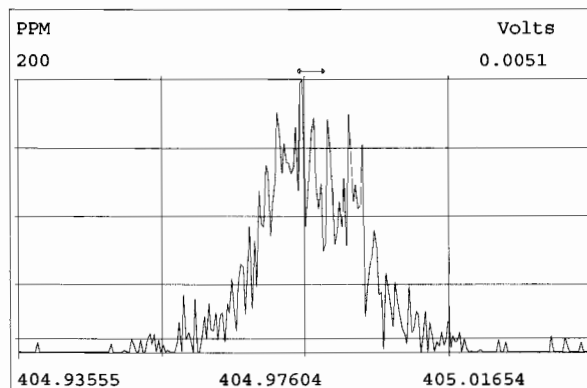
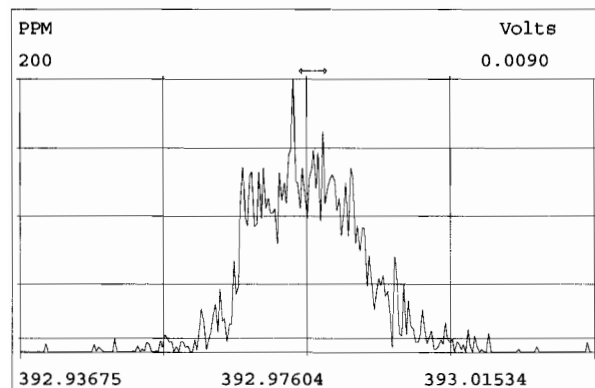
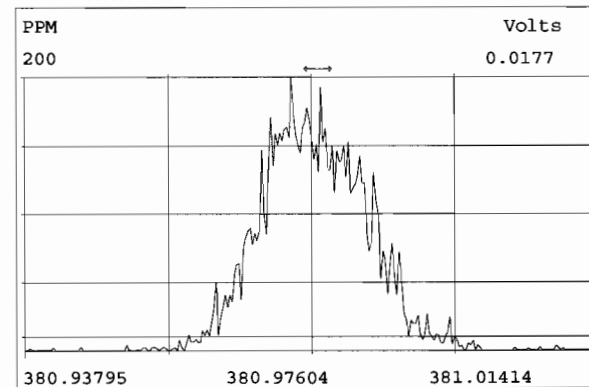
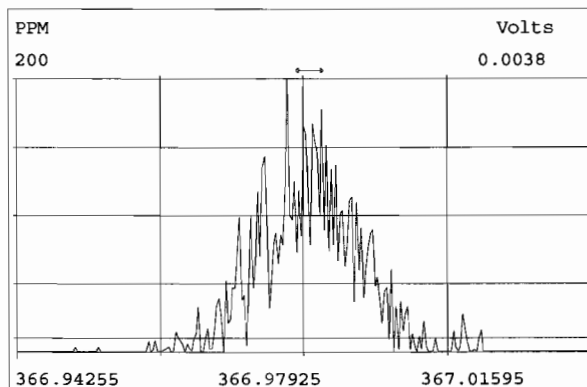
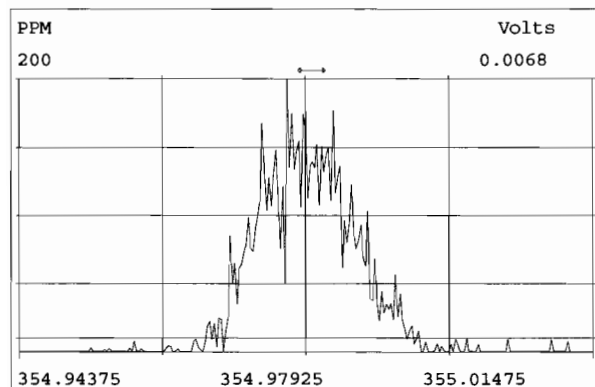
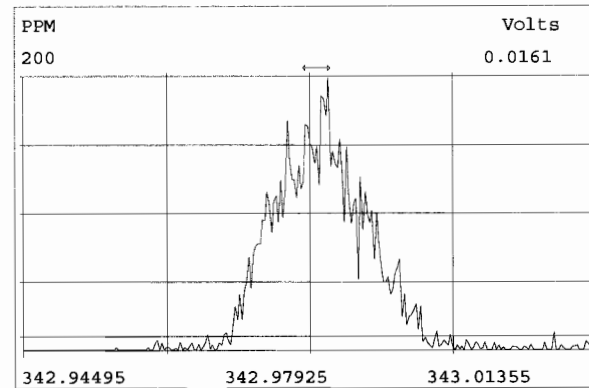
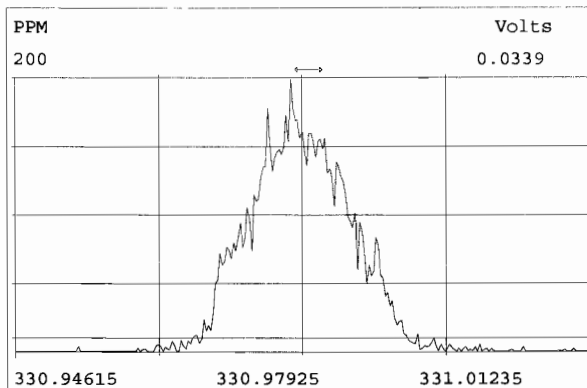
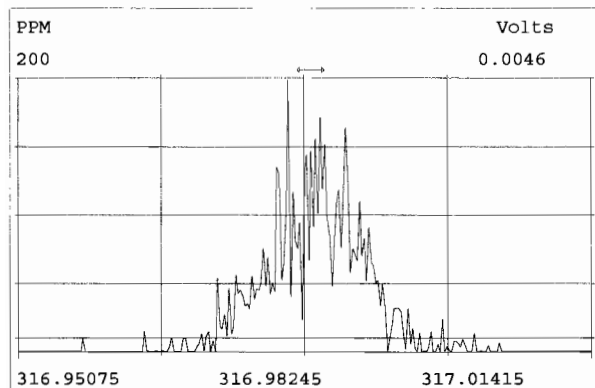
Peak Locate Examination:12-JUL-2019:13:30 File:190712D1

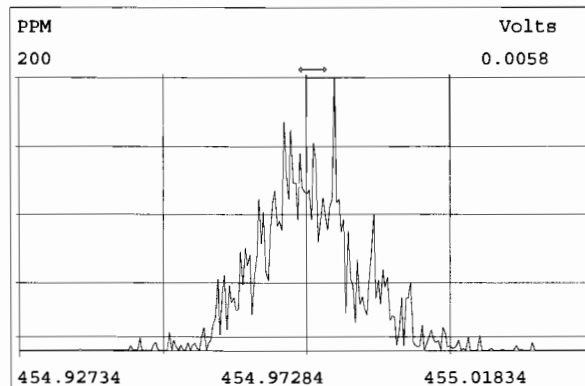
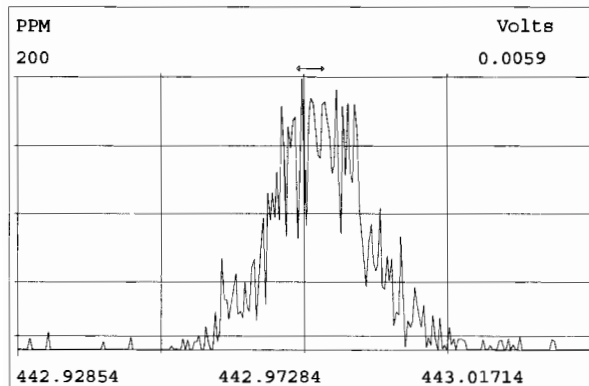
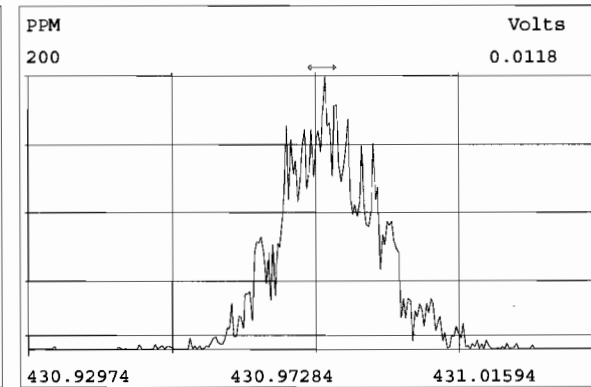
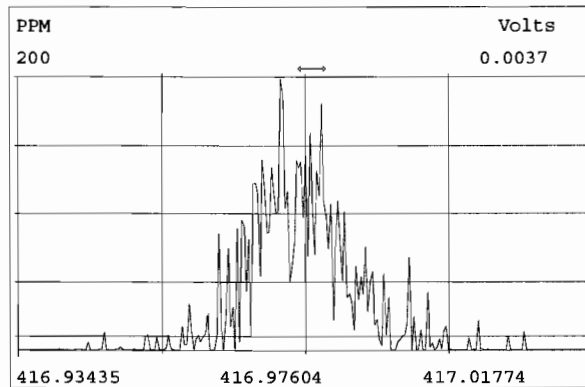
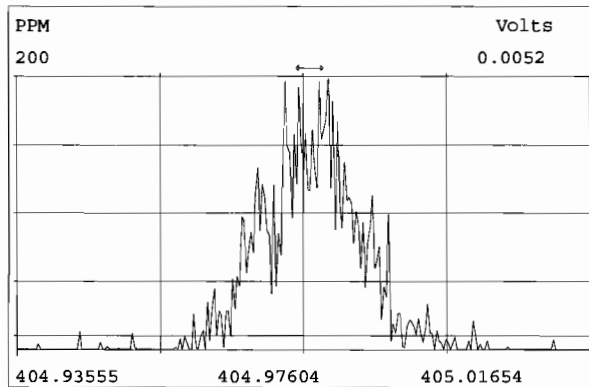
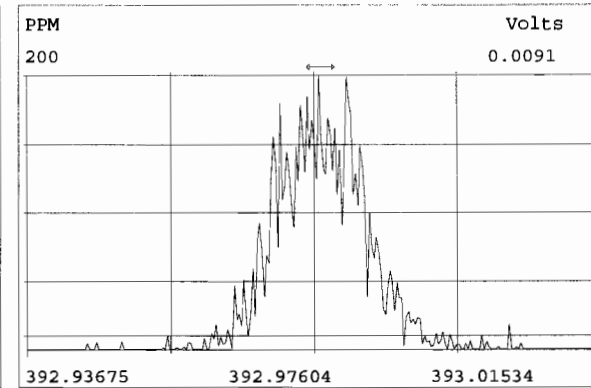
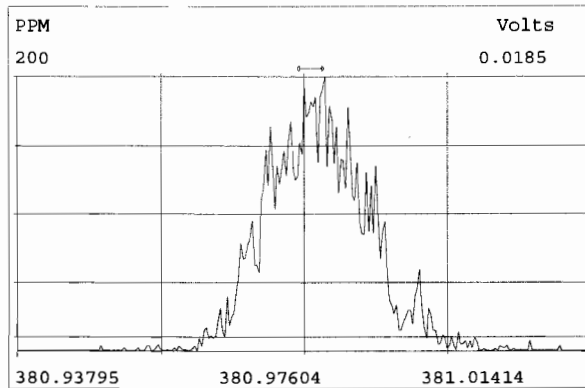
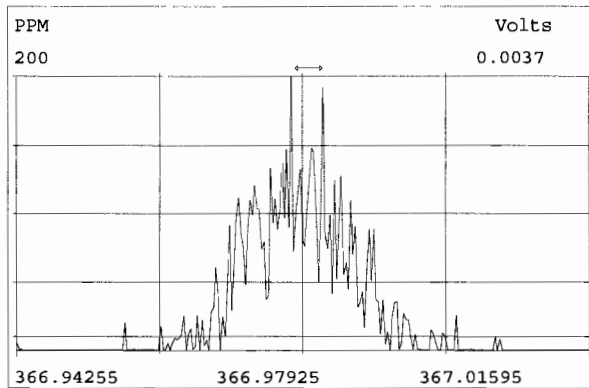
Experiment:OCDD_DB5 Function:1 Reference:PFK



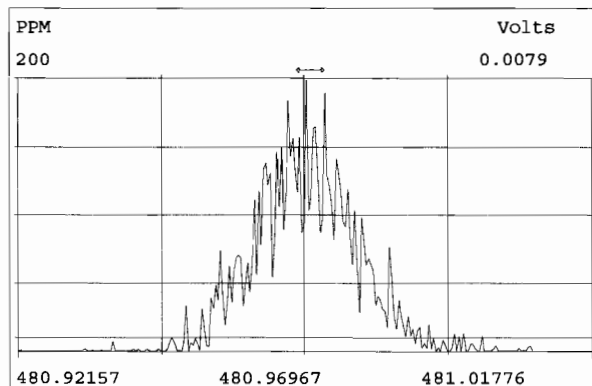
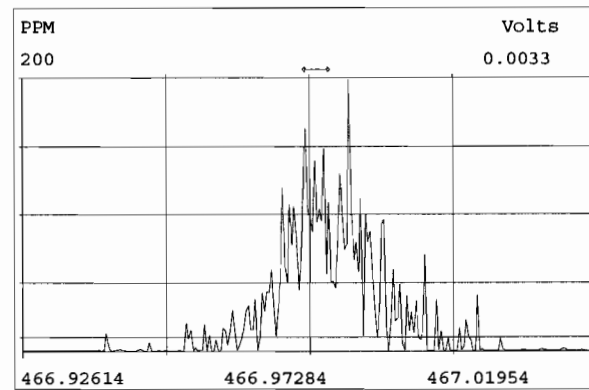
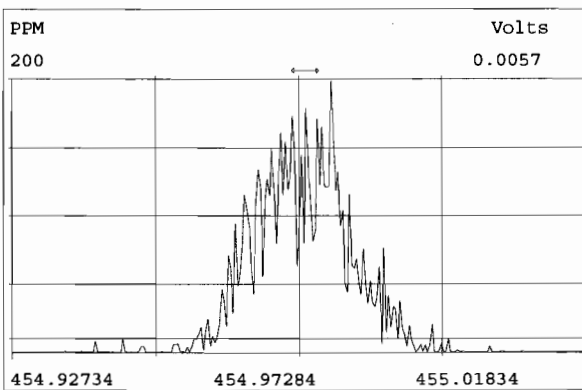
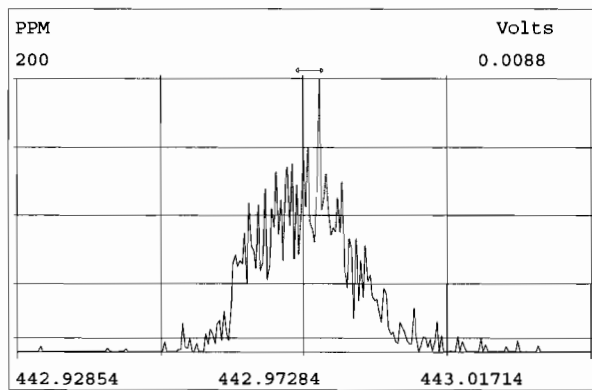
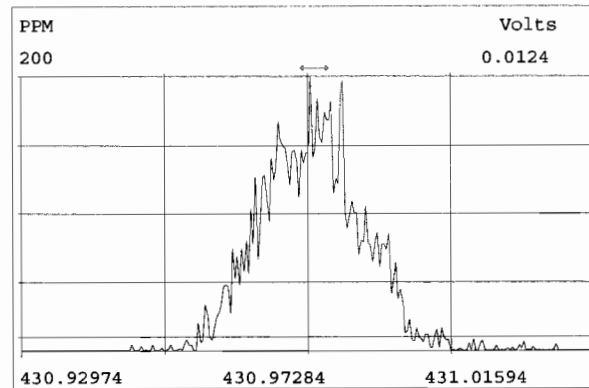
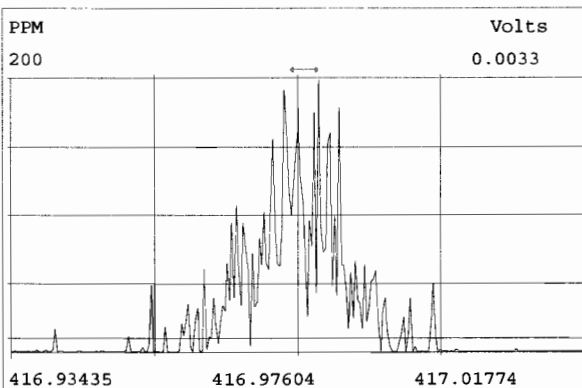
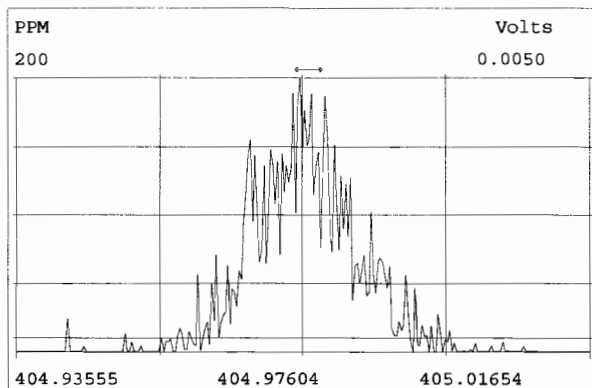
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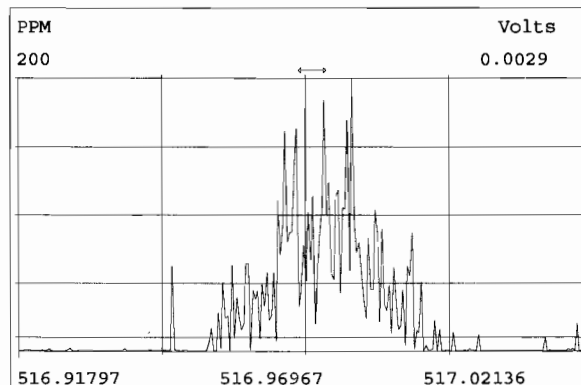
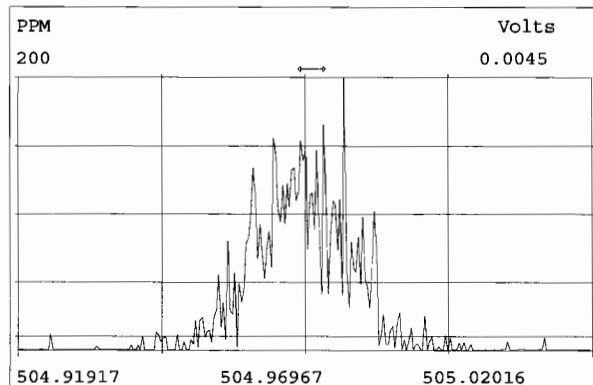
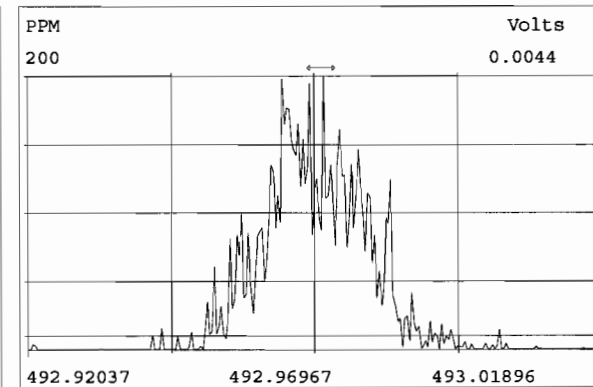
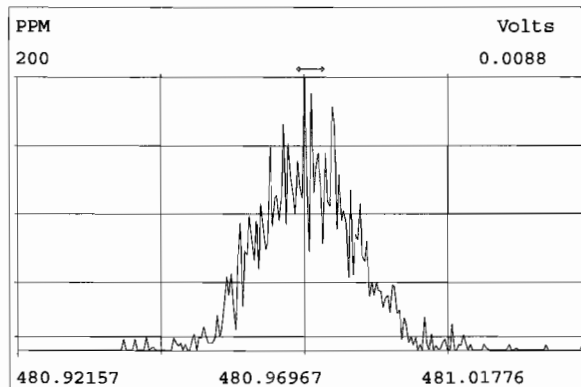
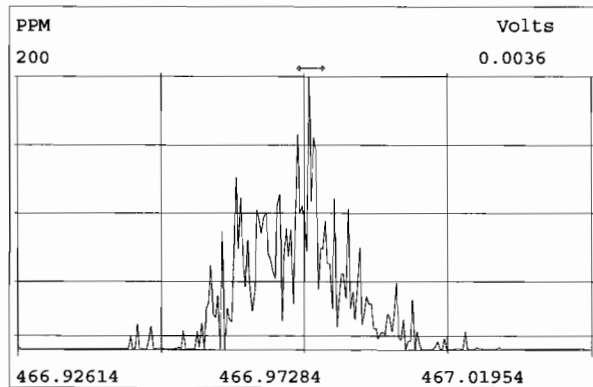
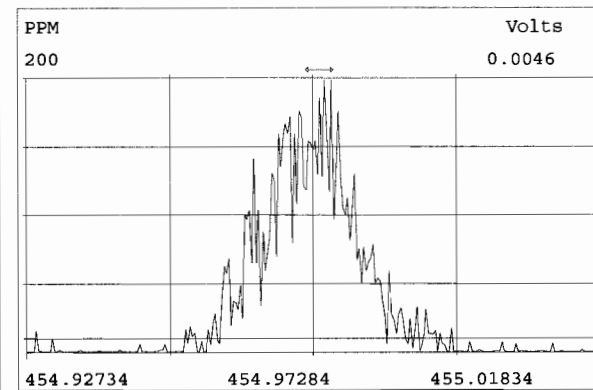
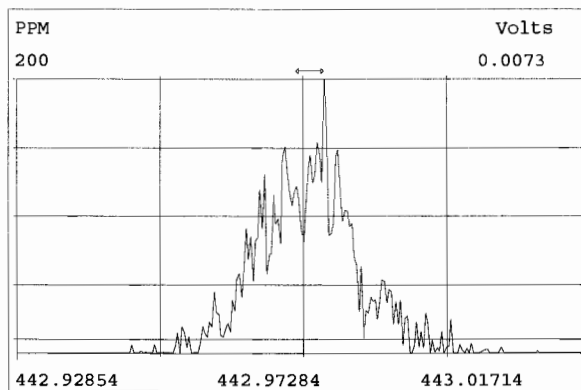
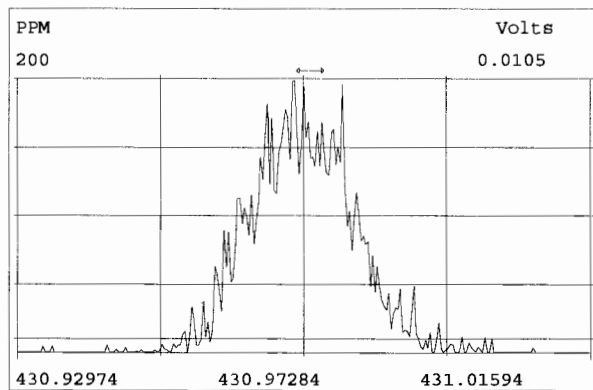
Experiment:OCDD_DB5 Function:2 Reference:PFK



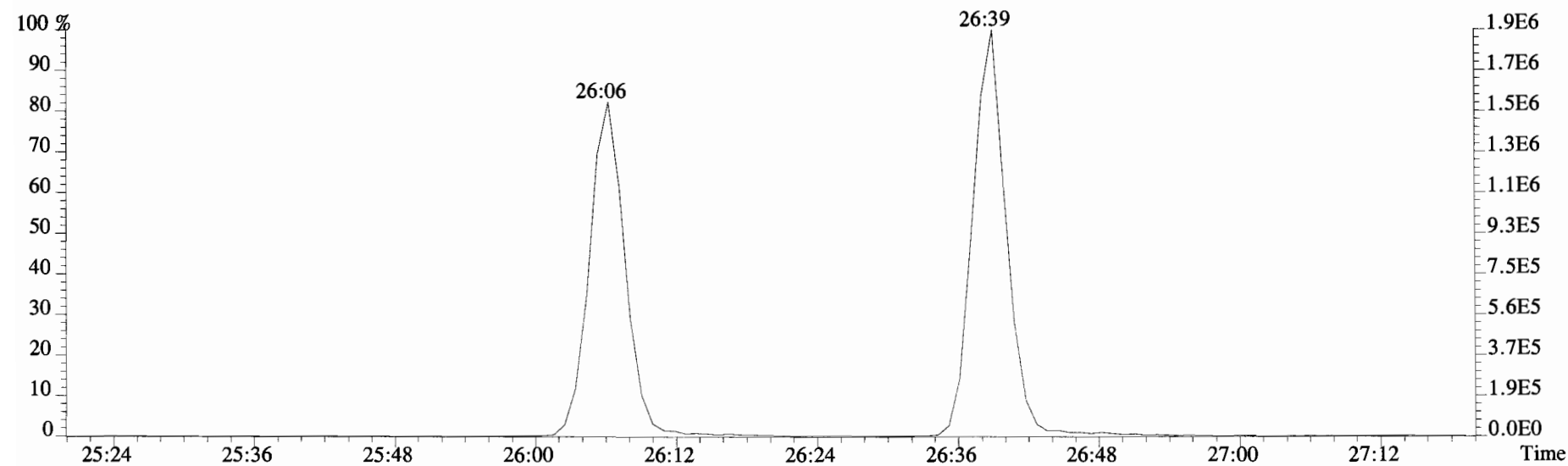
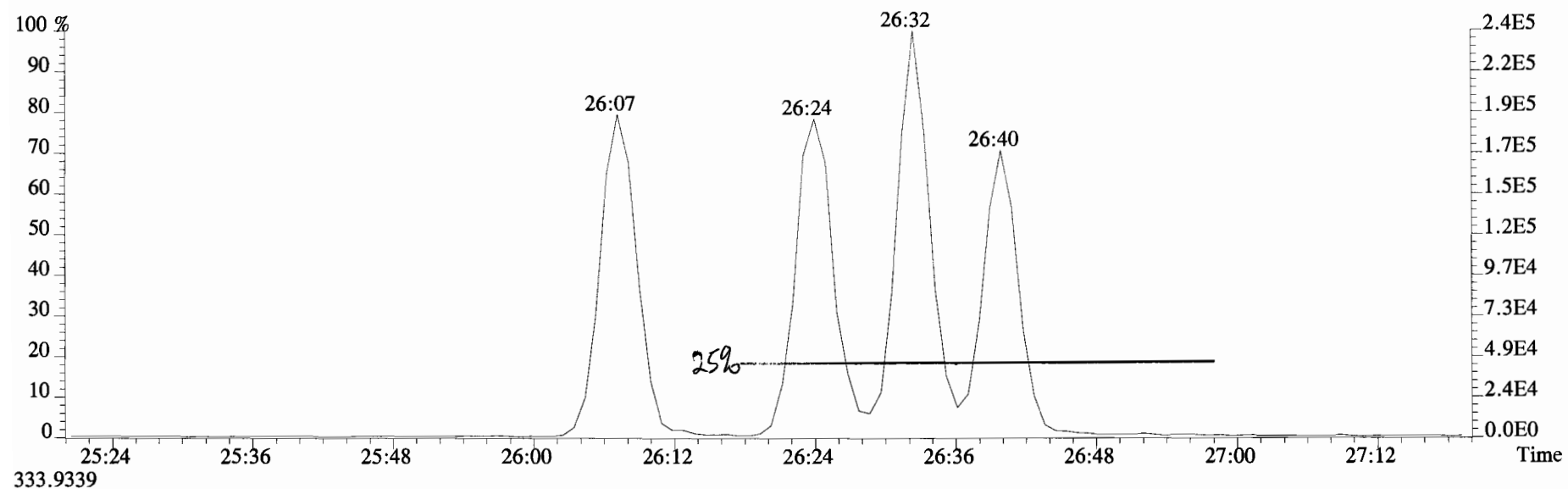


Experiment:OCDD_DB5 Function:4 Reference:PFK

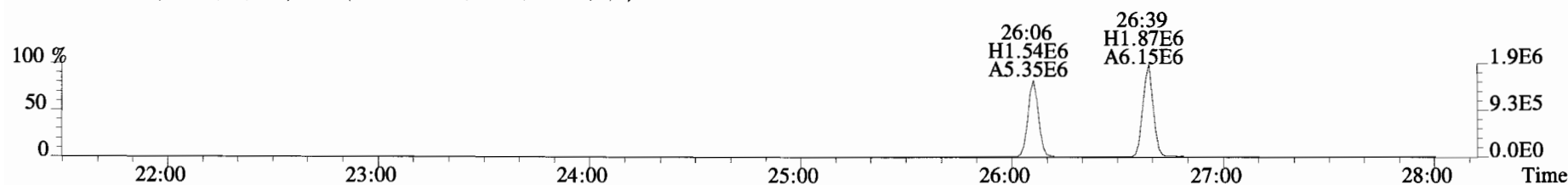
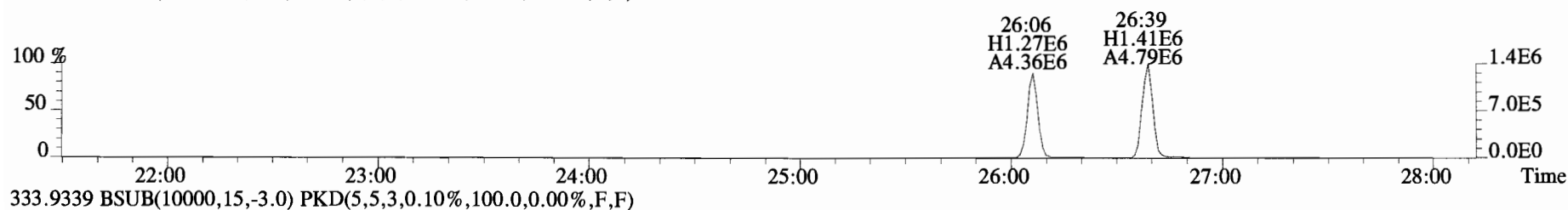
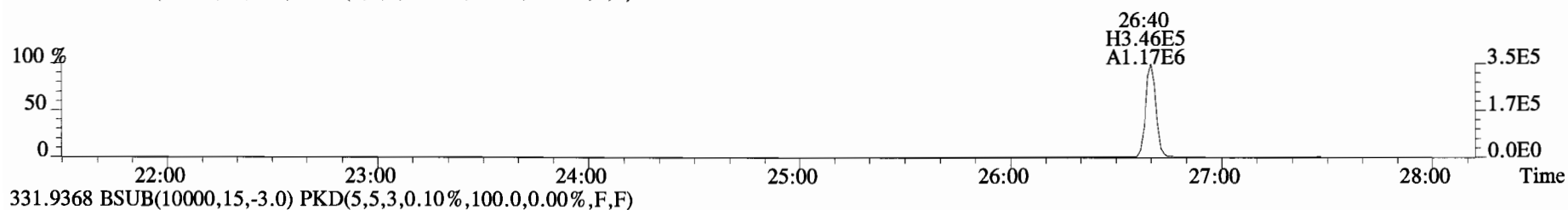
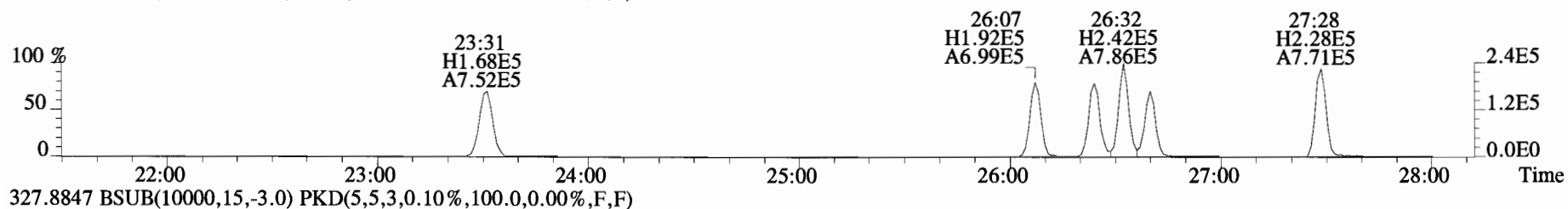
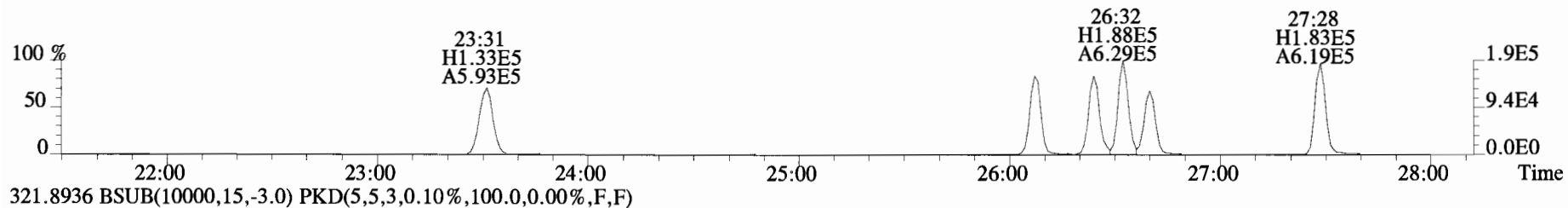




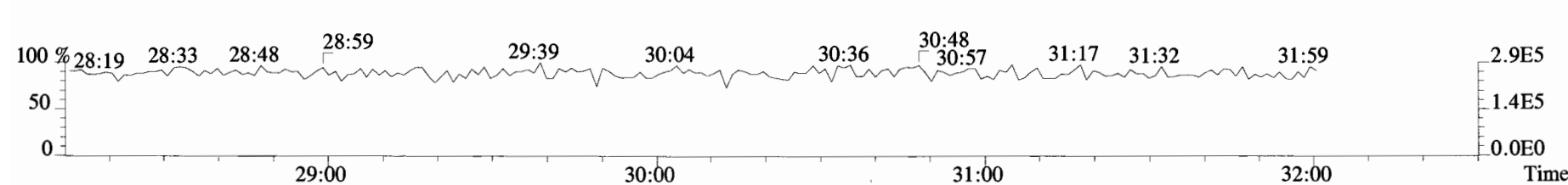
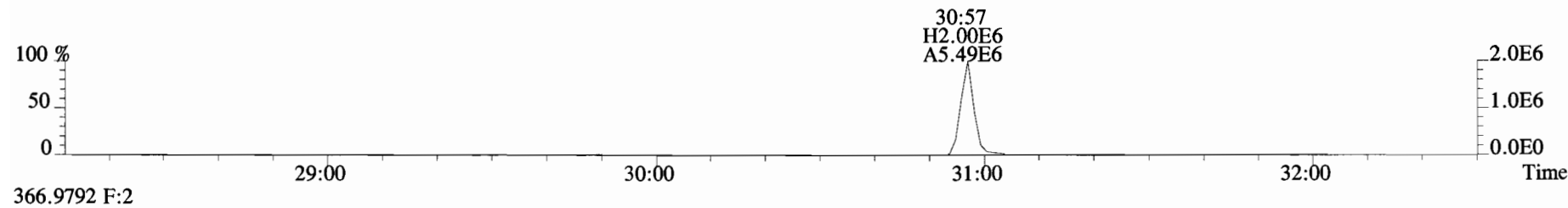
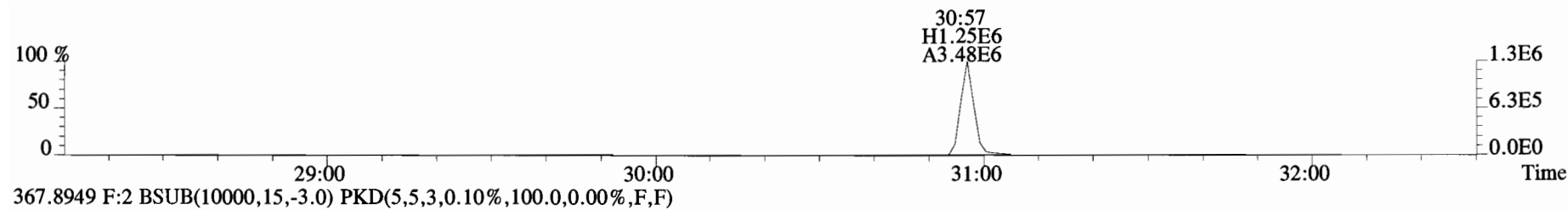
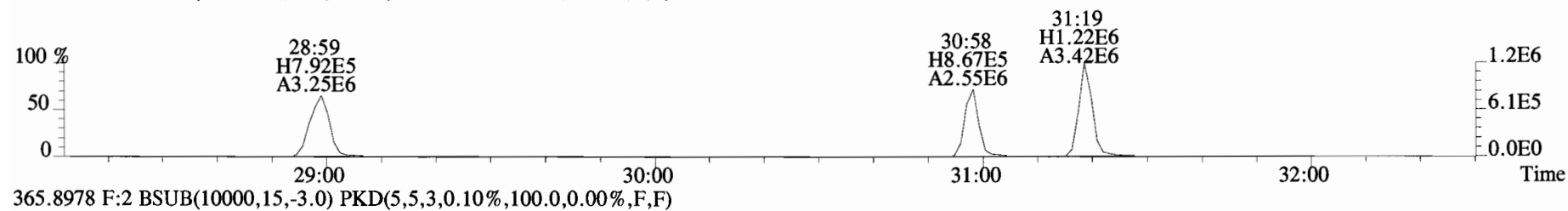
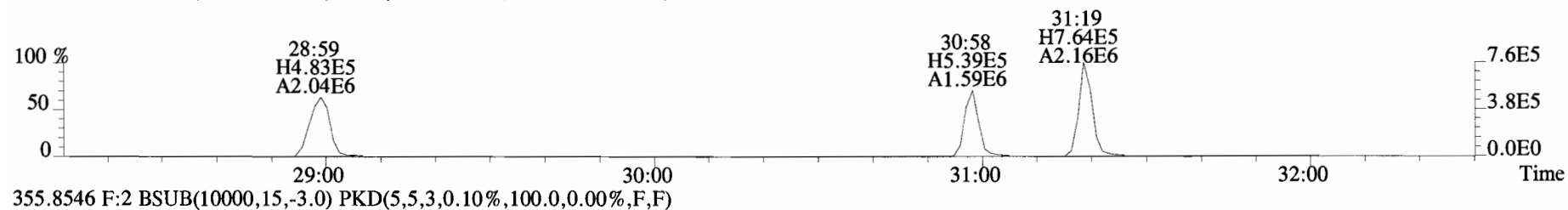
File:190712D1 #1-514 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



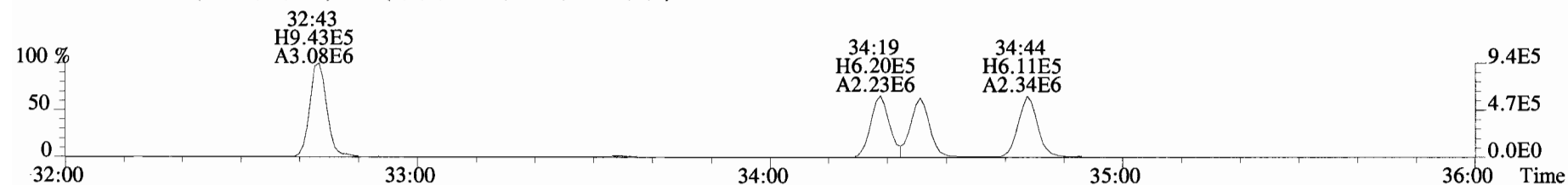
File:190712D1 #1-514 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



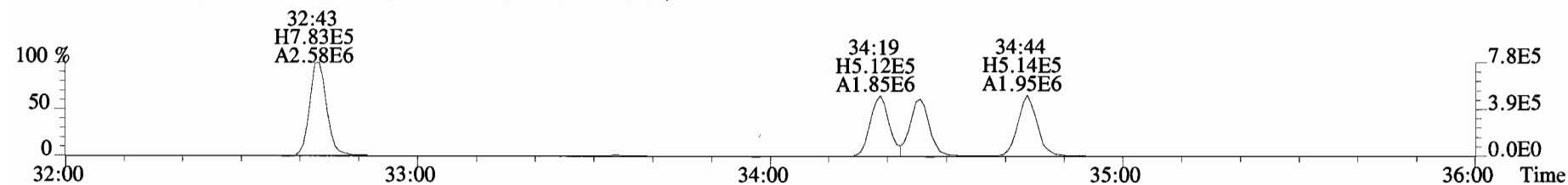
File:190712D1 #1-211 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



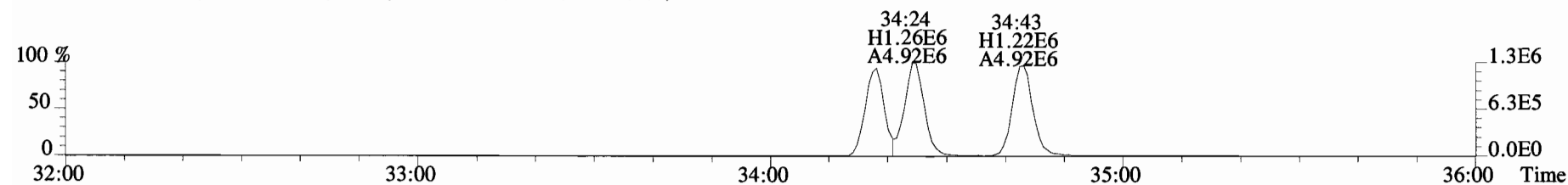
File:190712D1 #1-355 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



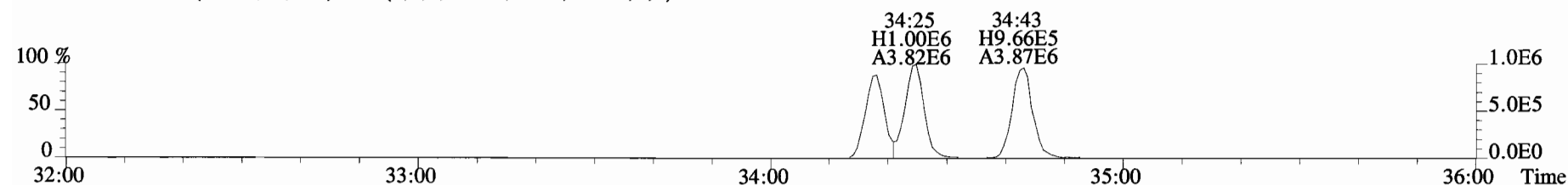
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



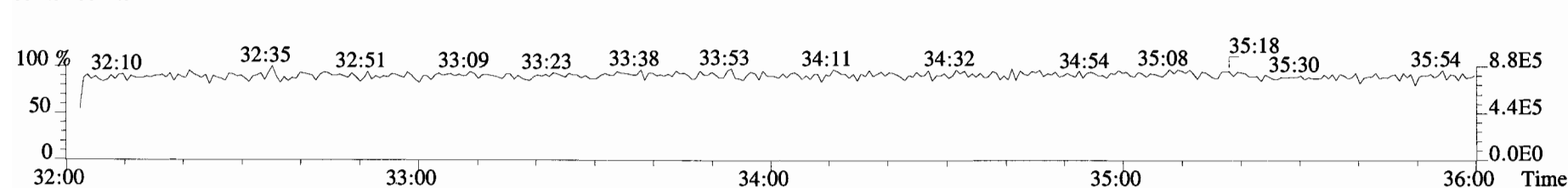
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



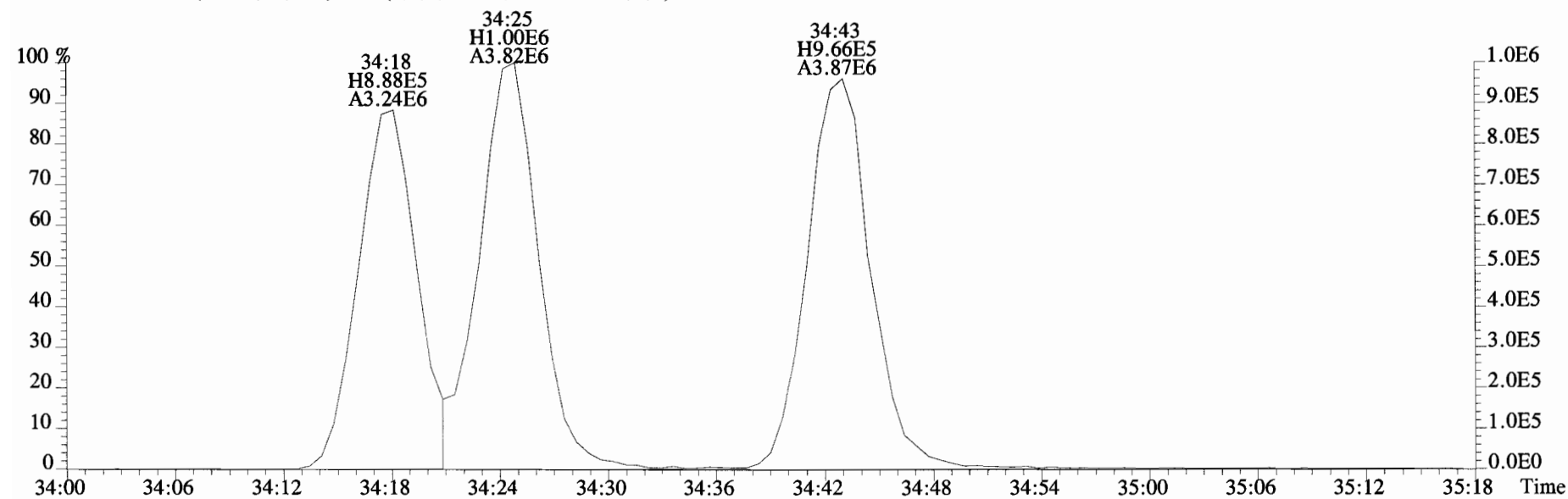
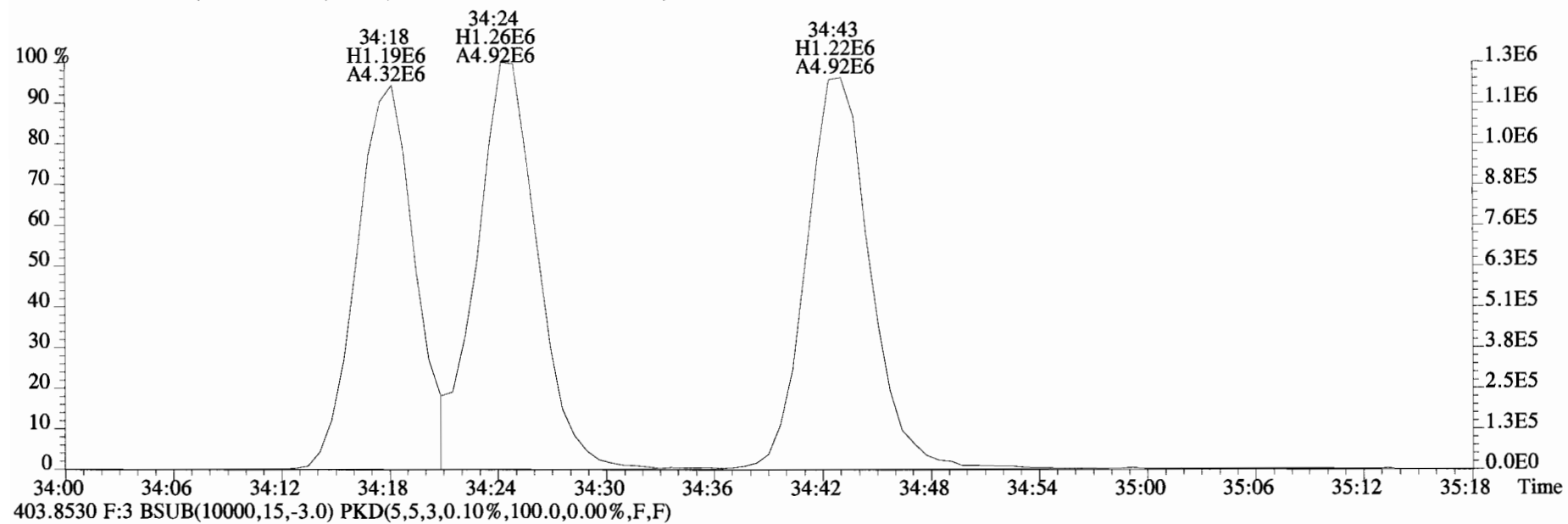
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



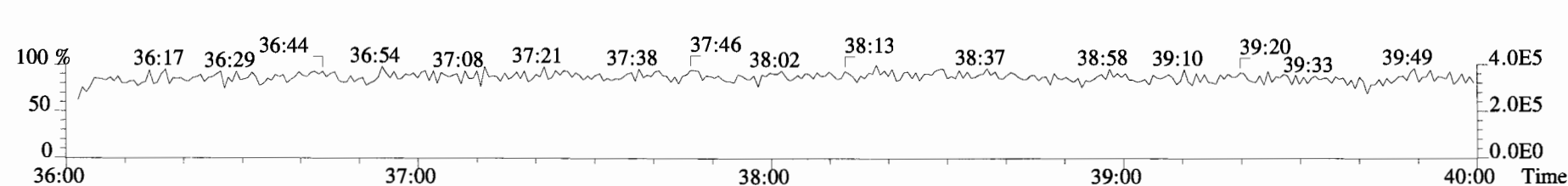
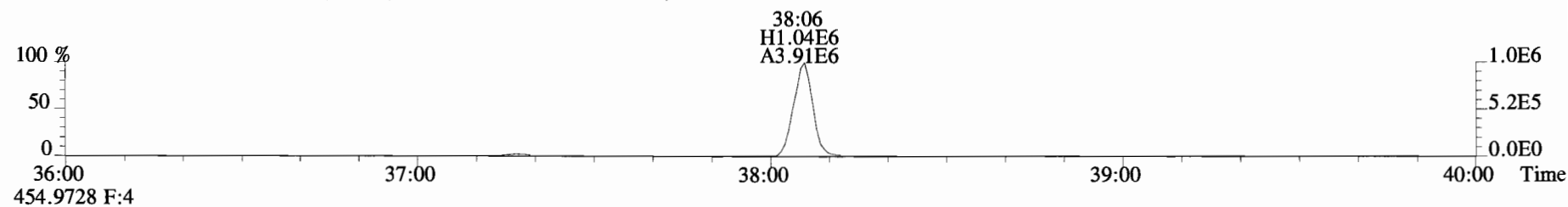
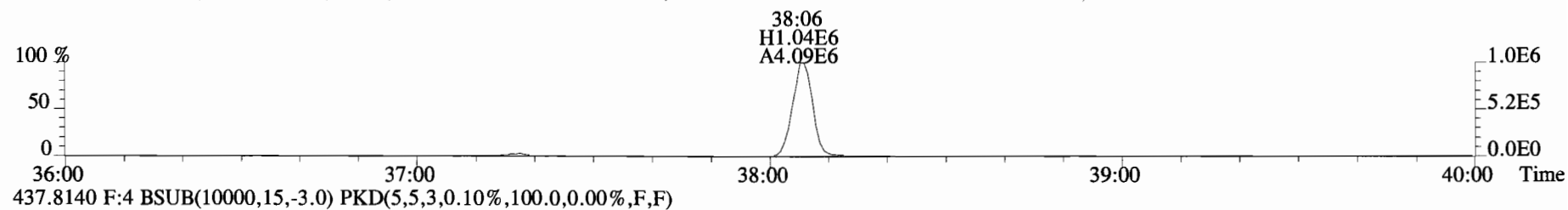
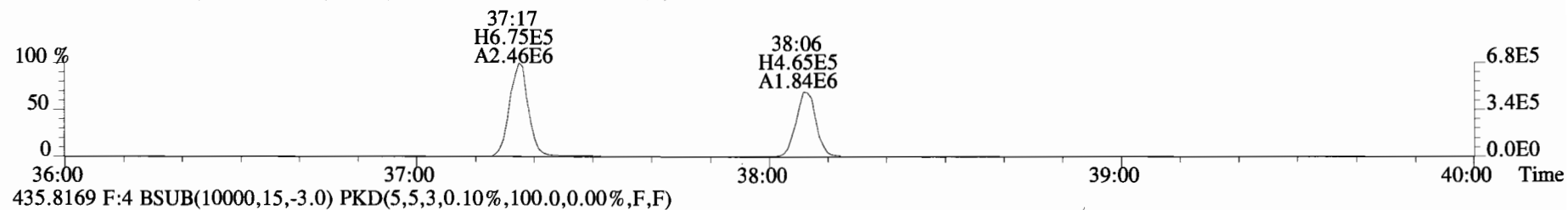
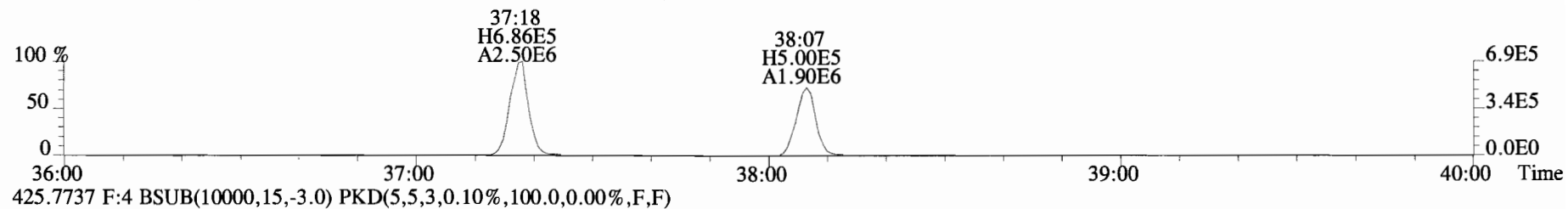
392.9760 F:3



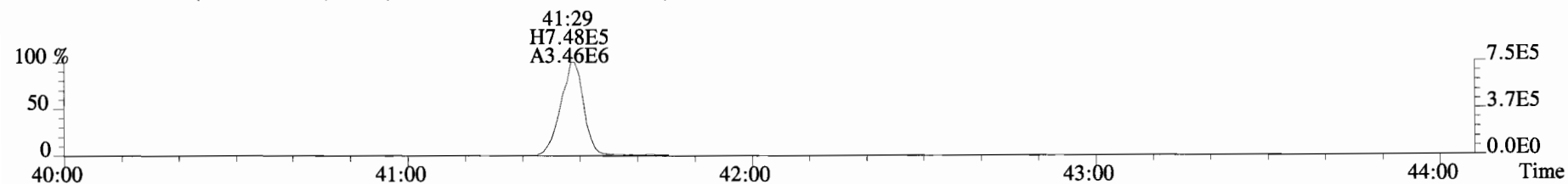
File:190712D1 #1-355 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



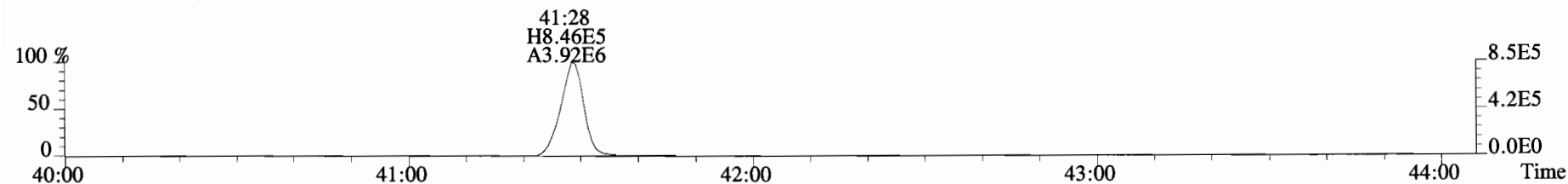
File:190712D1 #1-355 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



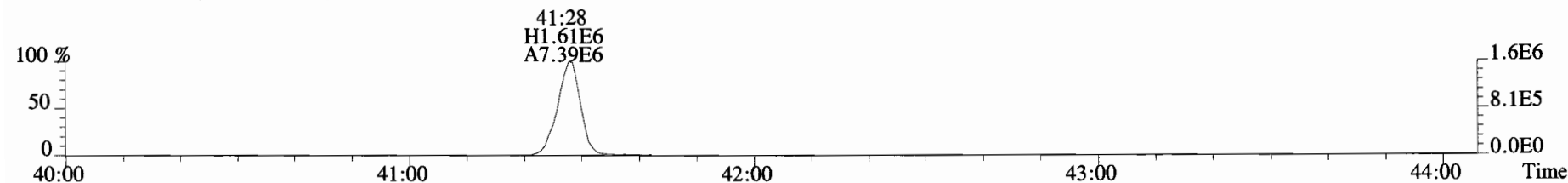
File:190712D1 #1-432 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



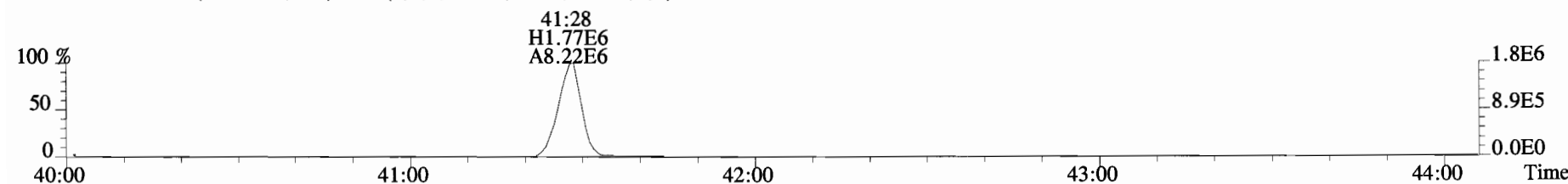
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



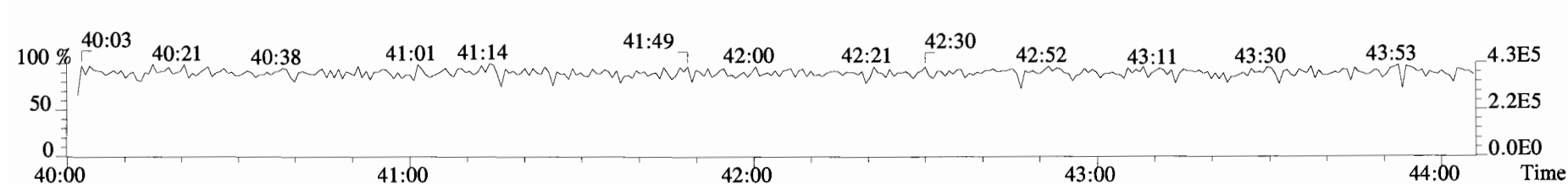
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



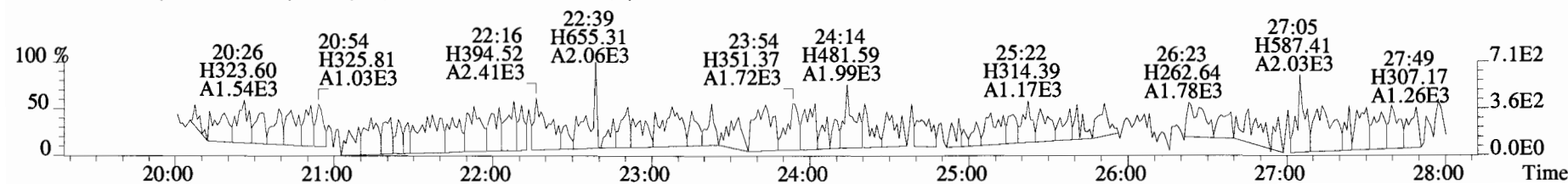
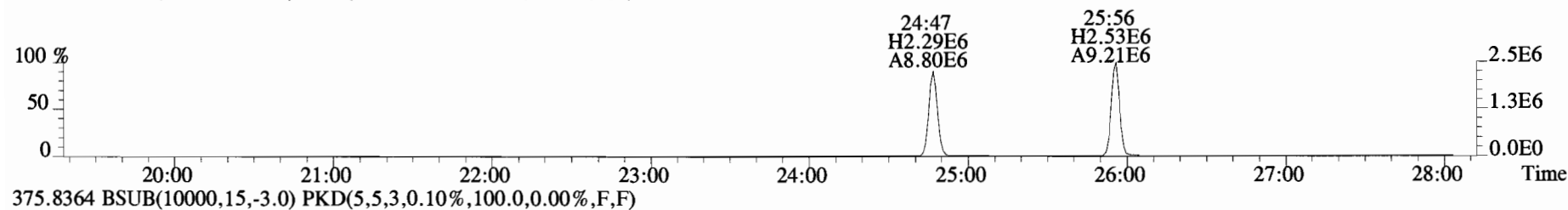
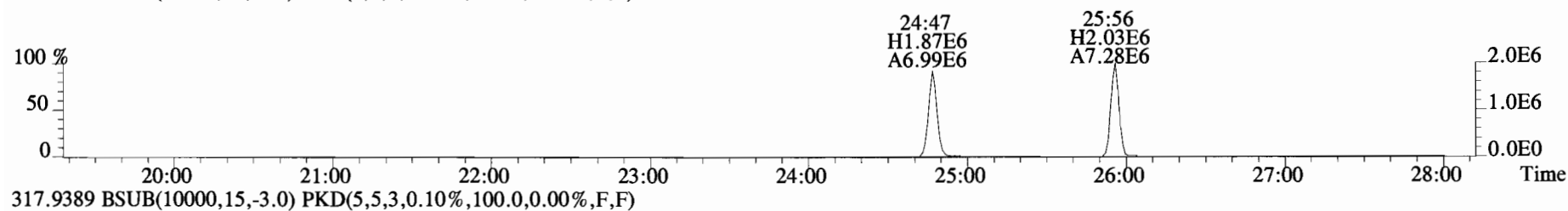
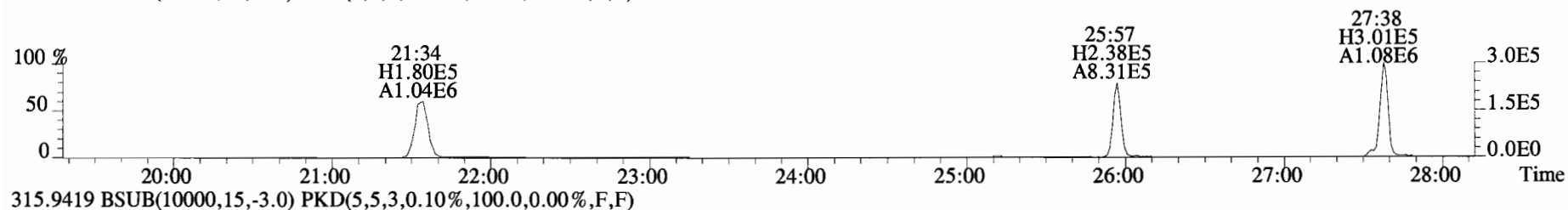
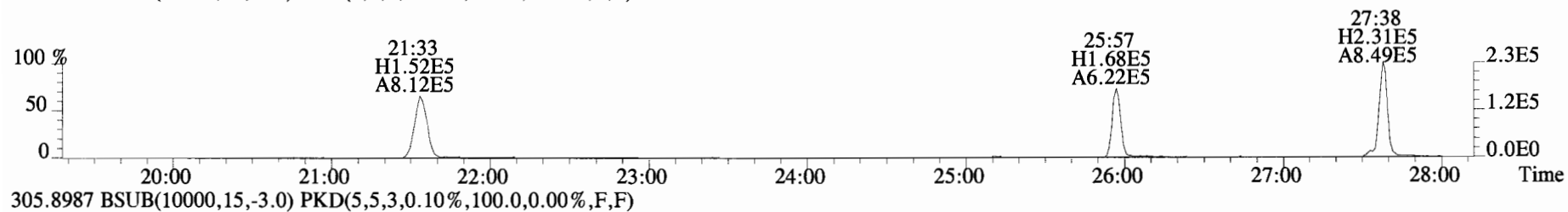
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



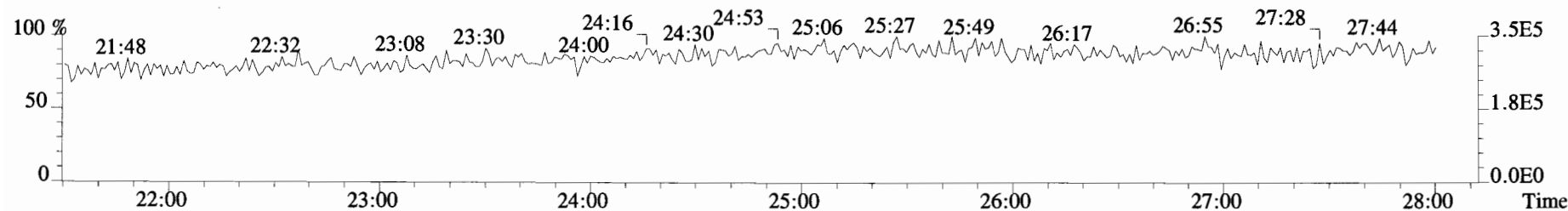
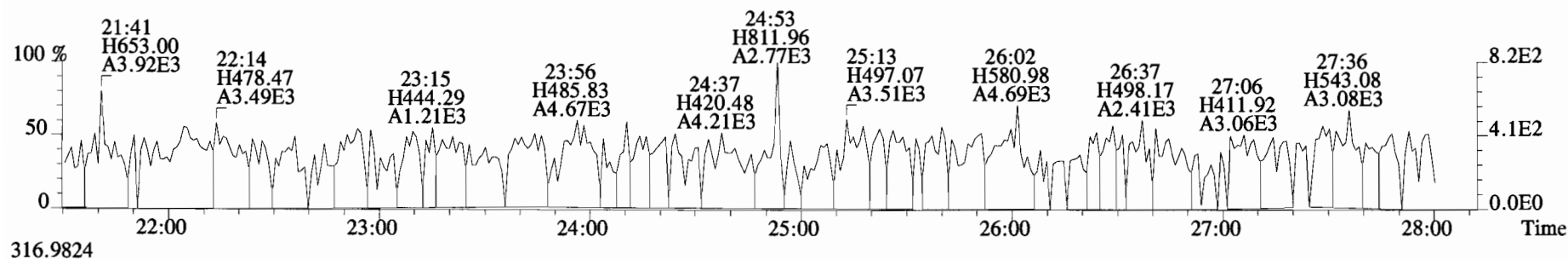
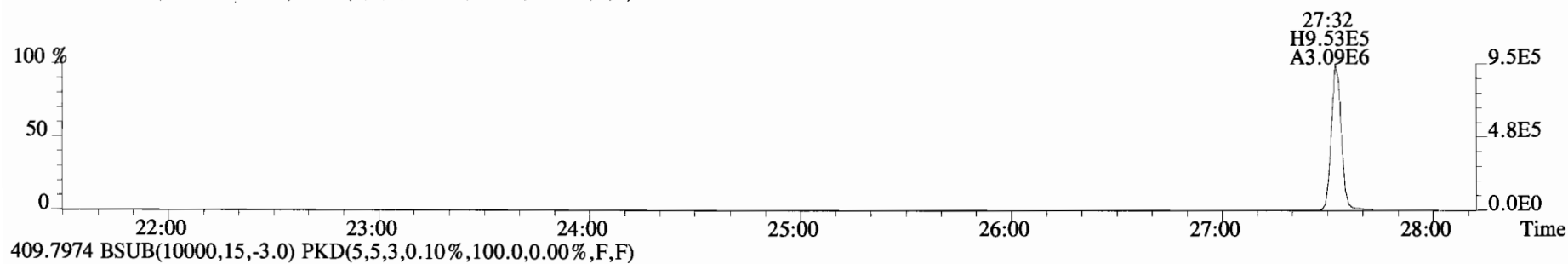
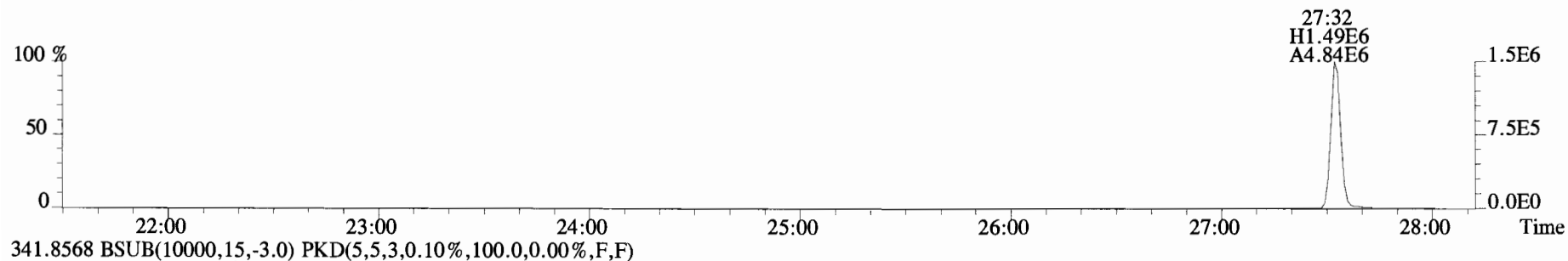
454.9728 F:5



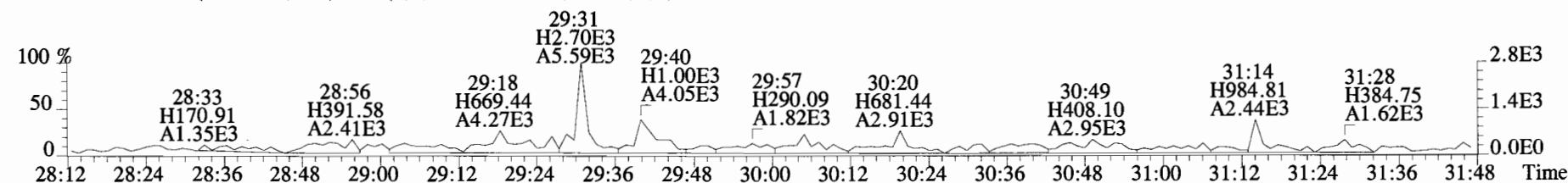
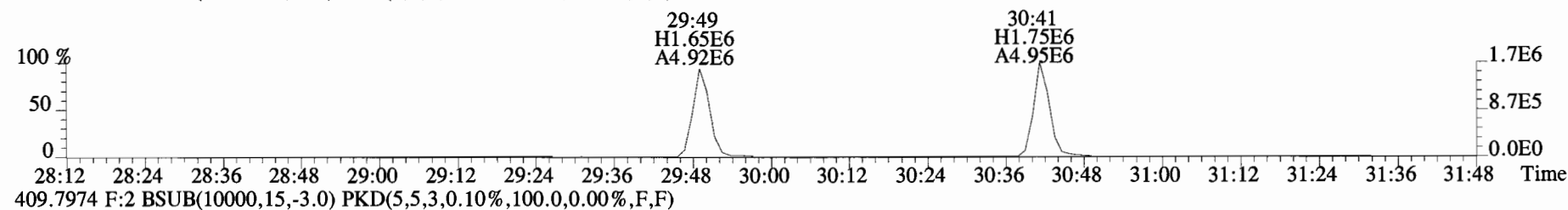
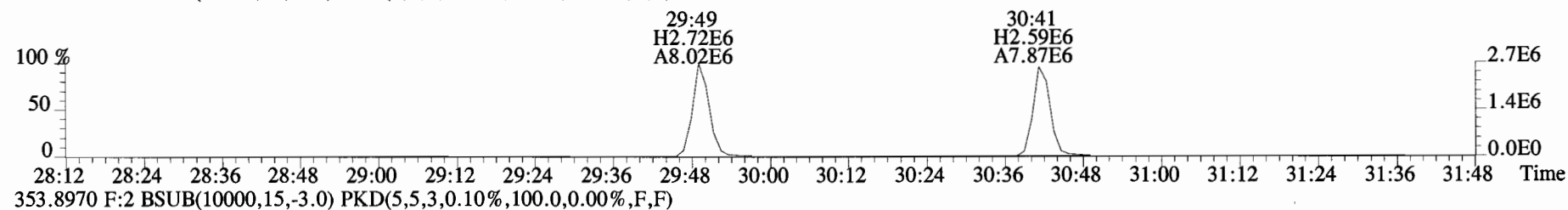
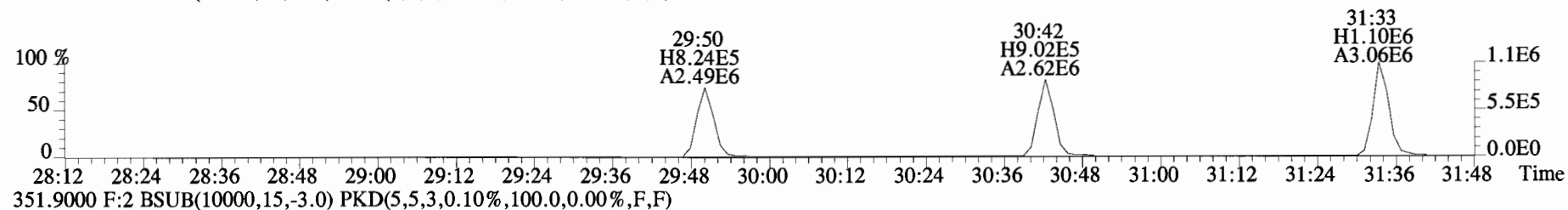
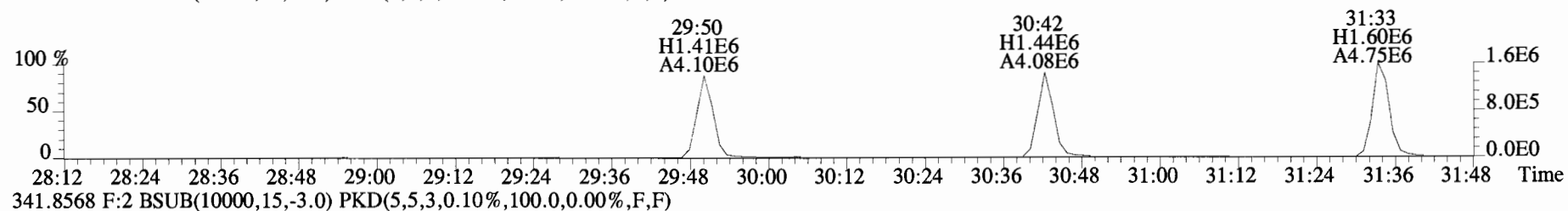
File:190712D1 #1-514 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



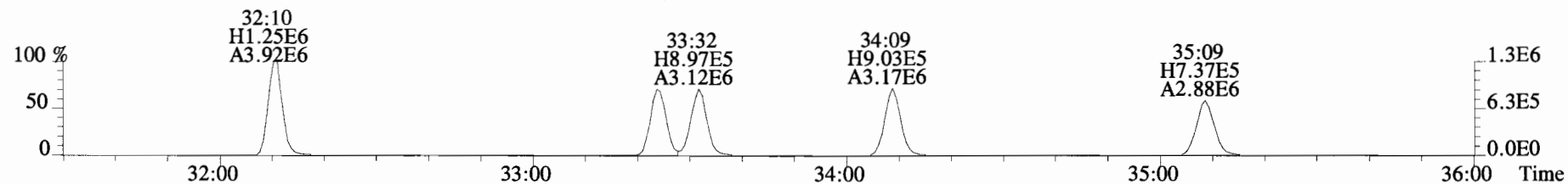
File:190712D1 #1-514 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



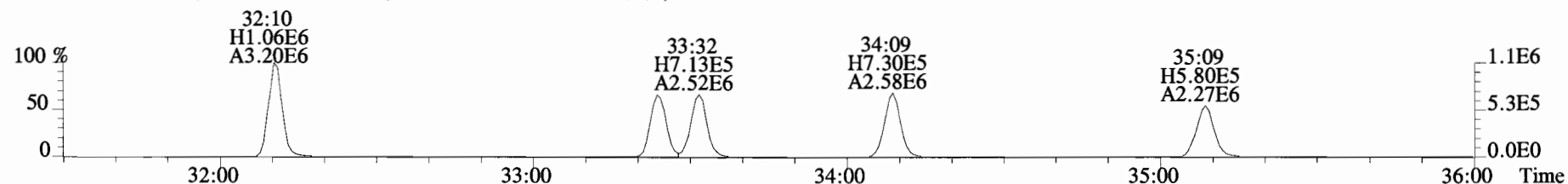
File:190712D1 #1-211 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



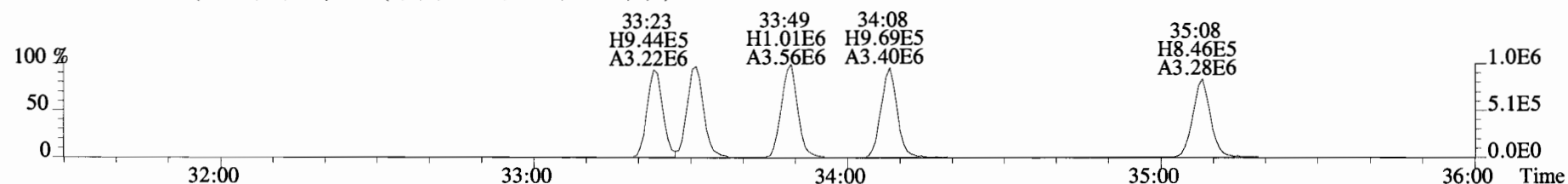
File:190712D1 #1-355 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



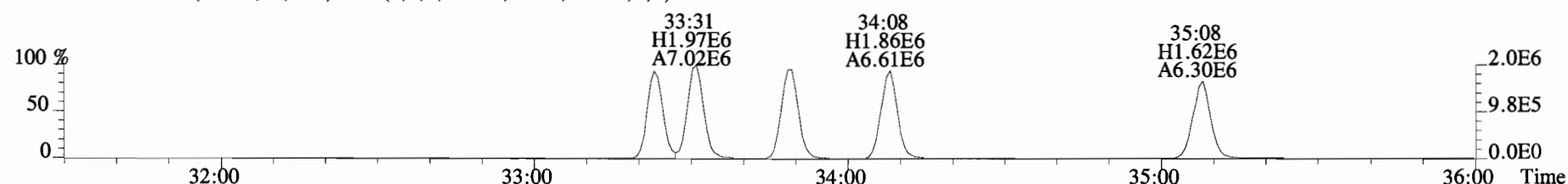
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



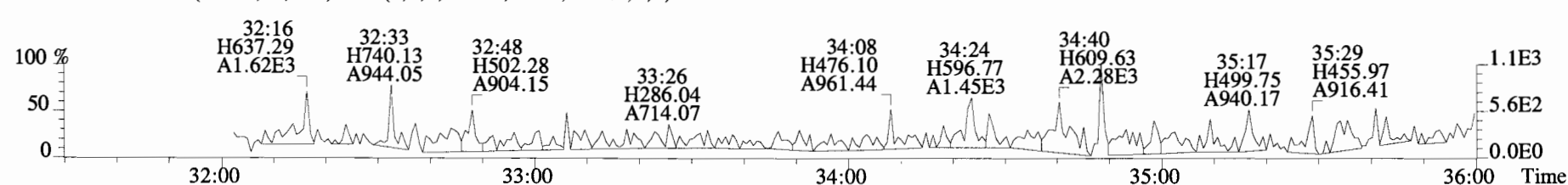
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



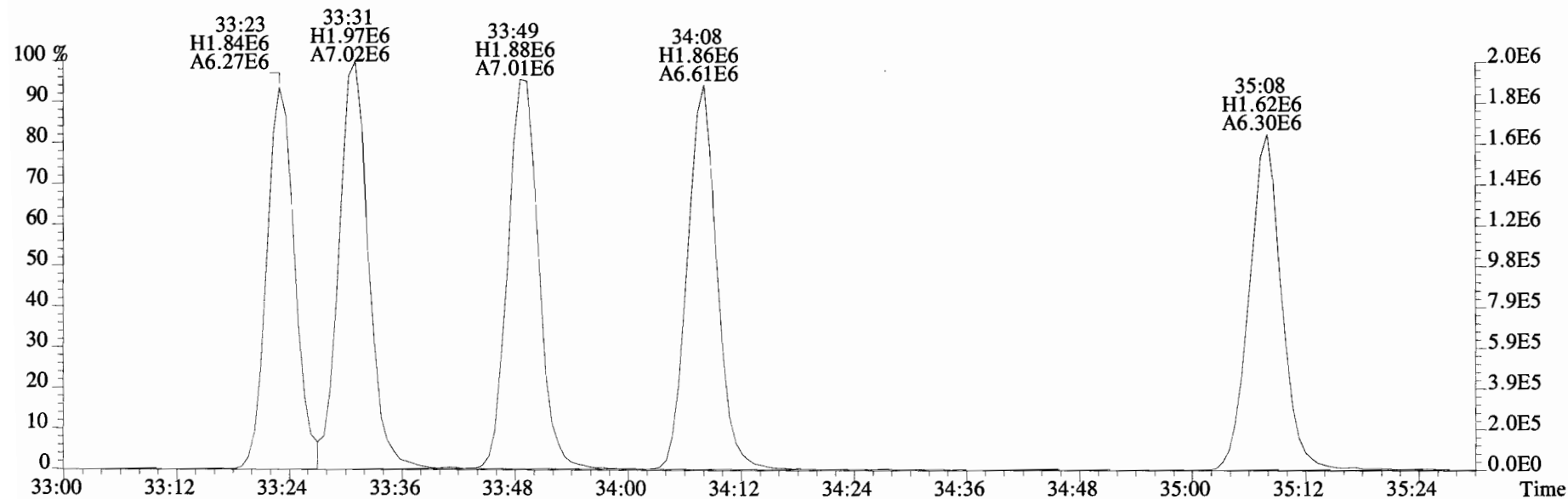
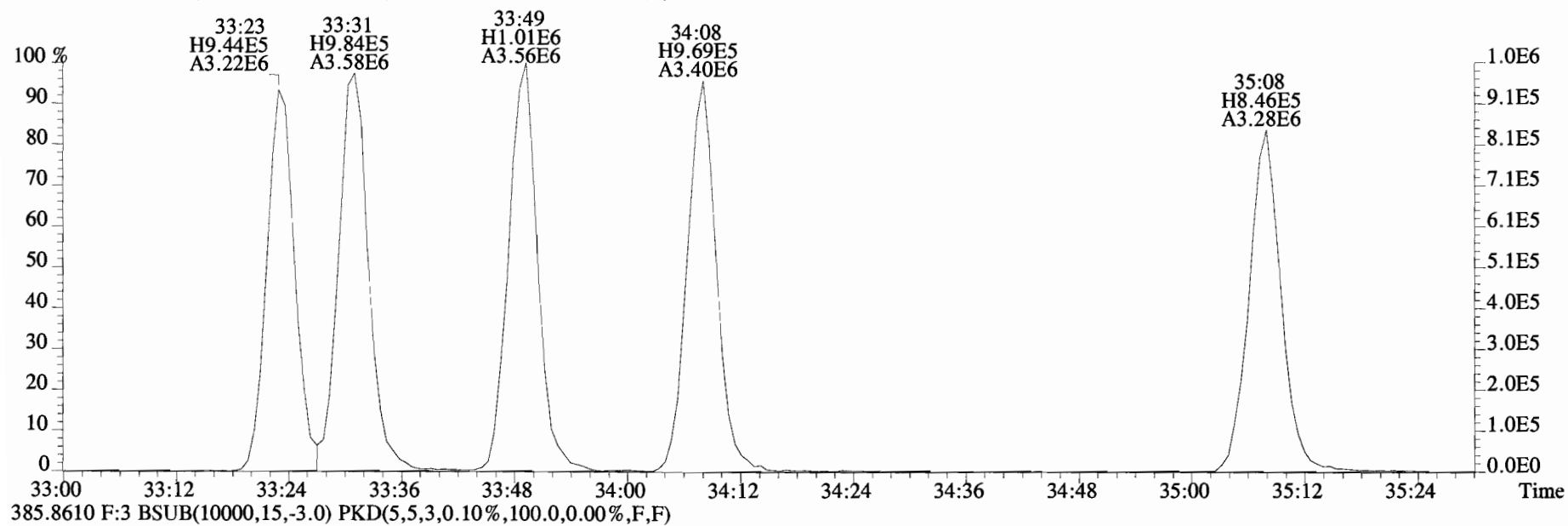
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



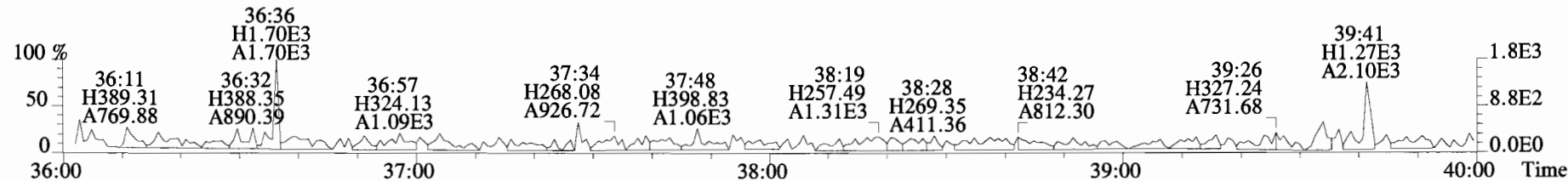
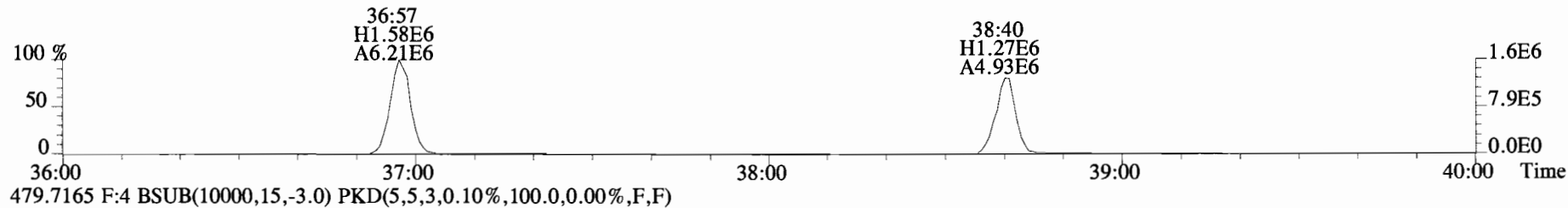
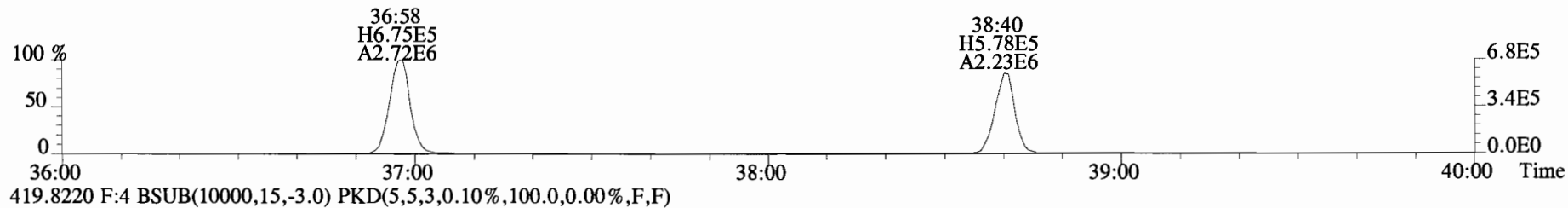
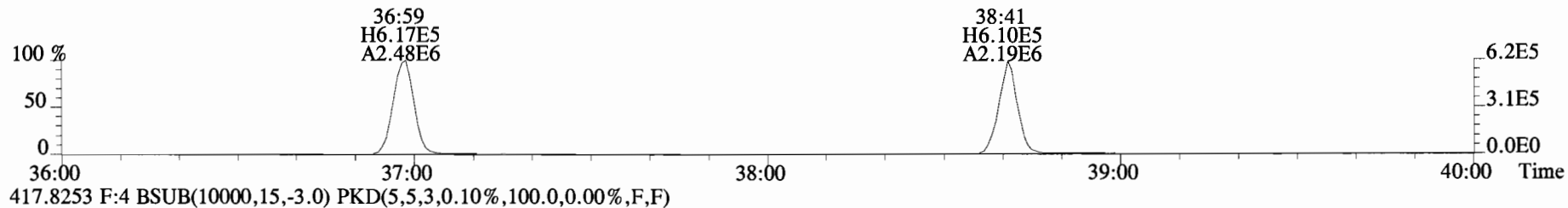
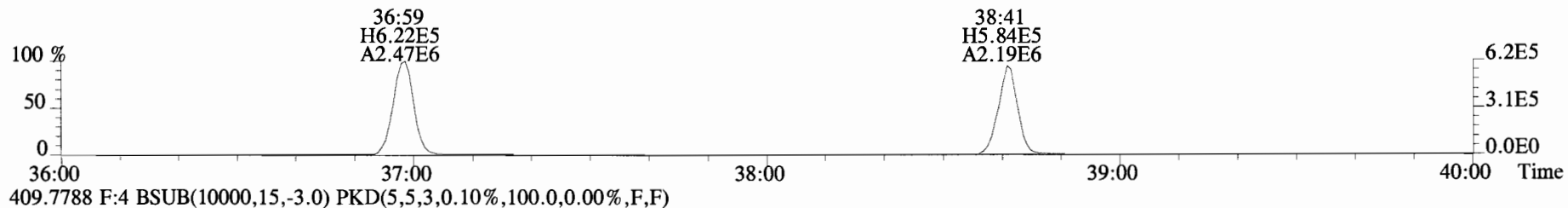
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



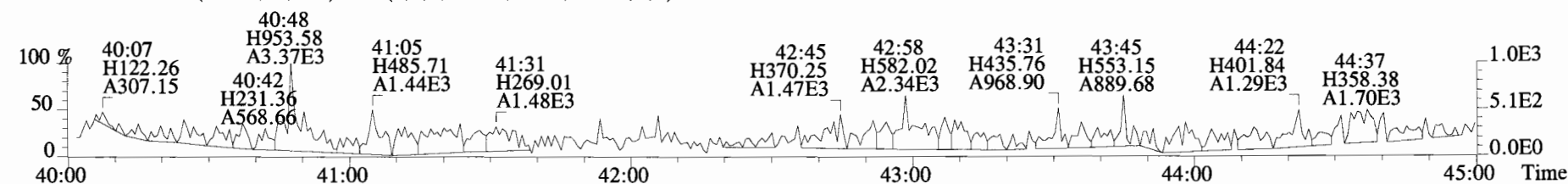
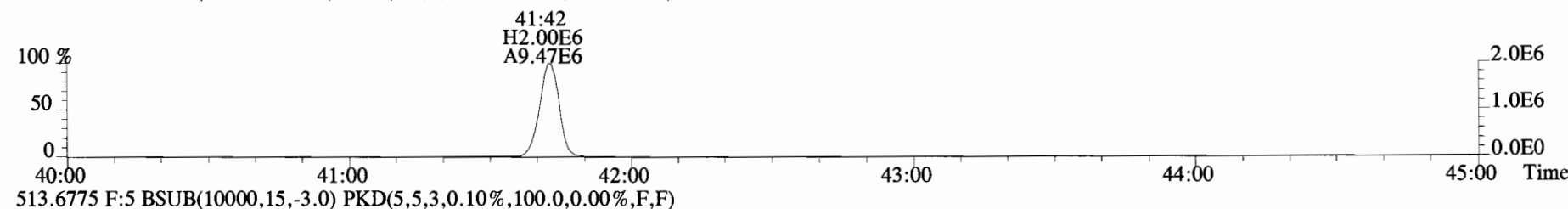
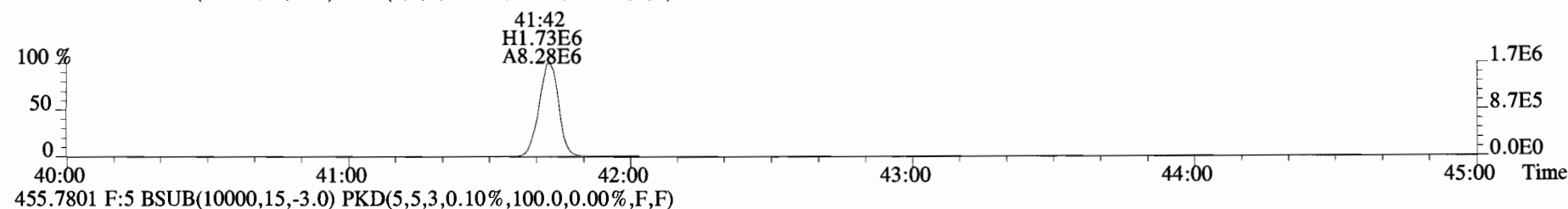
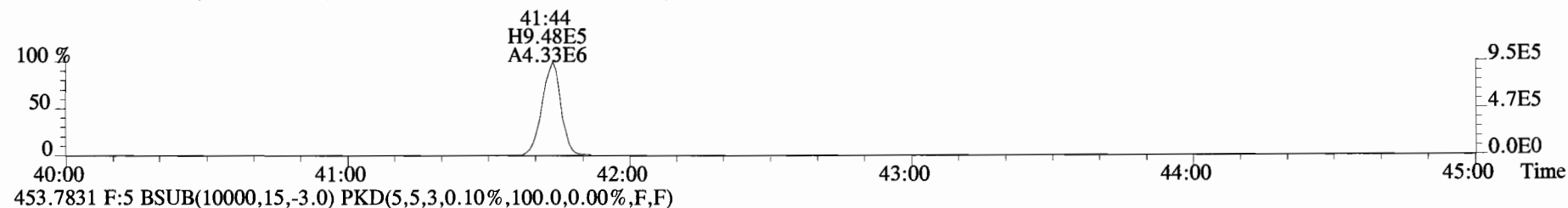
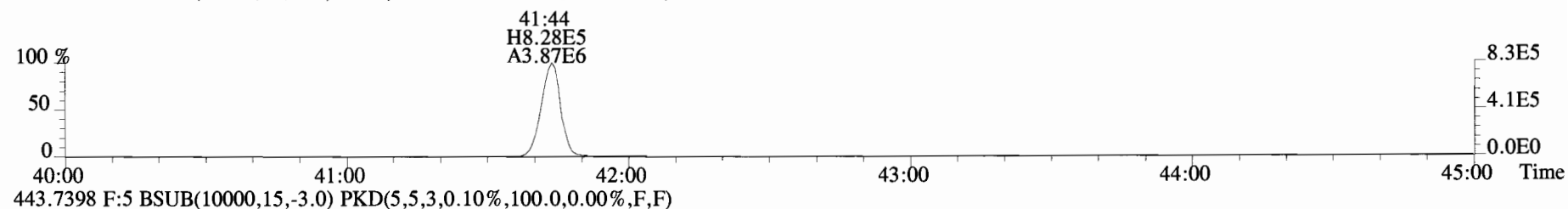
File:190712D1 #1-355 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

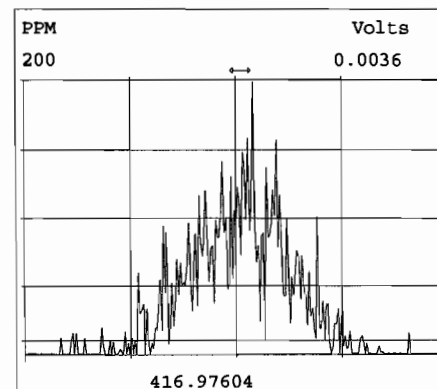
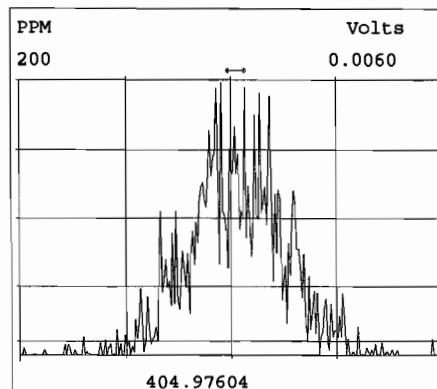
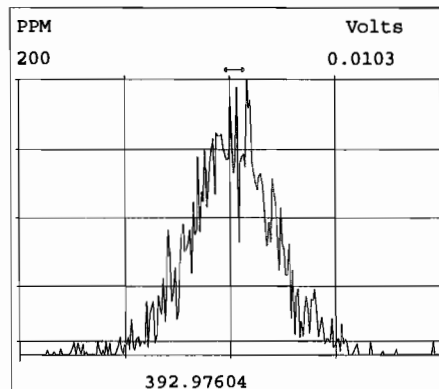
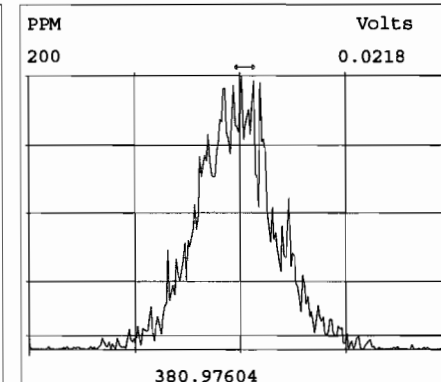
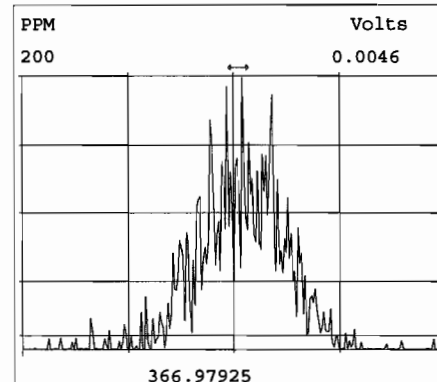
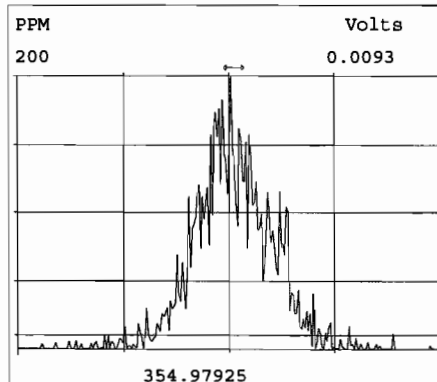
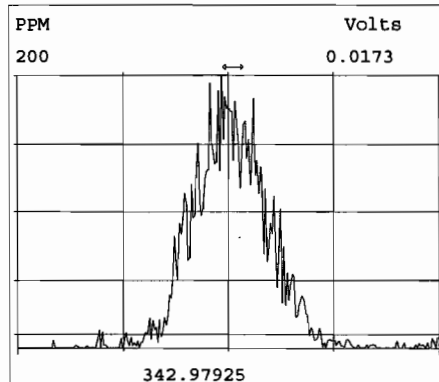
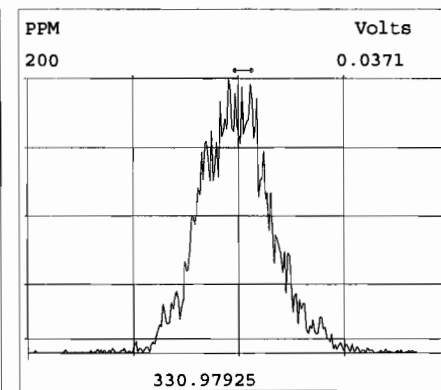
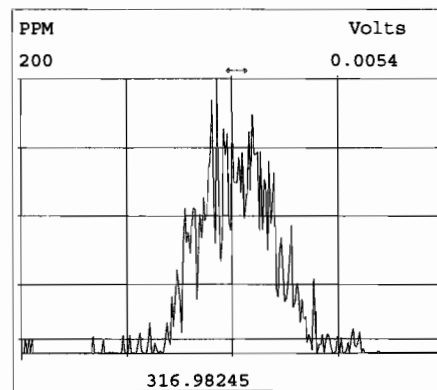
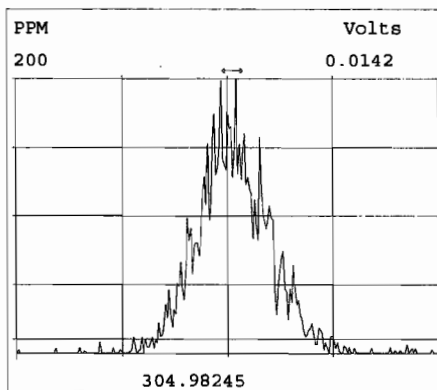
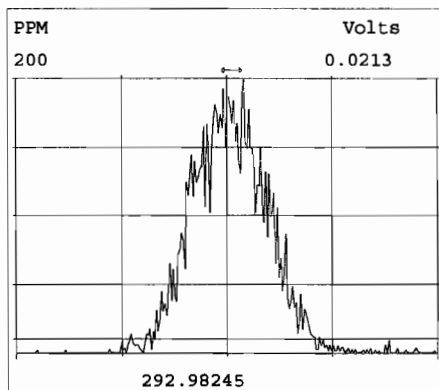


File:190712D1 #1-355 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



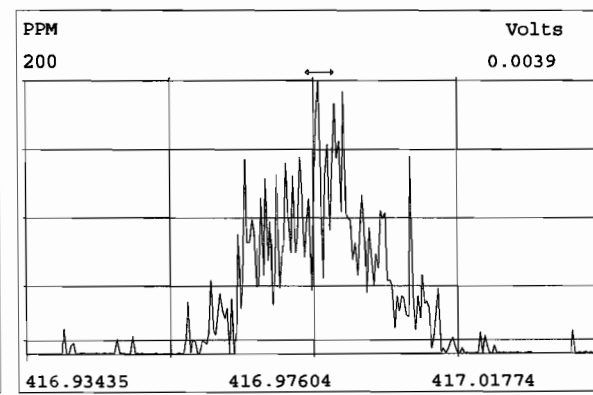
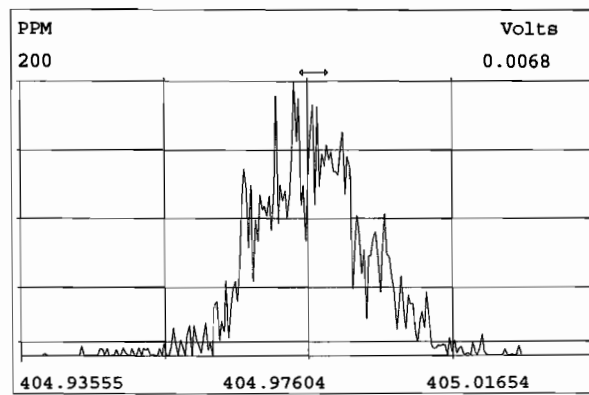
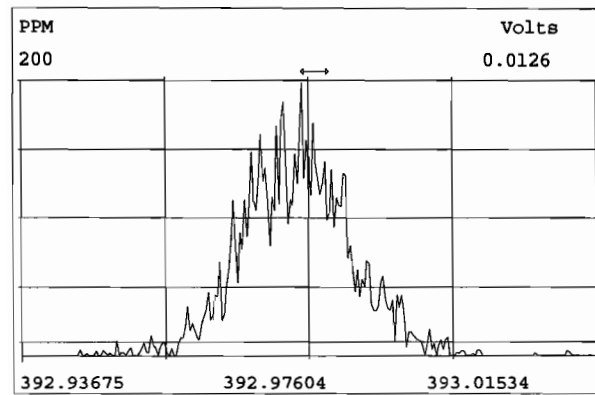
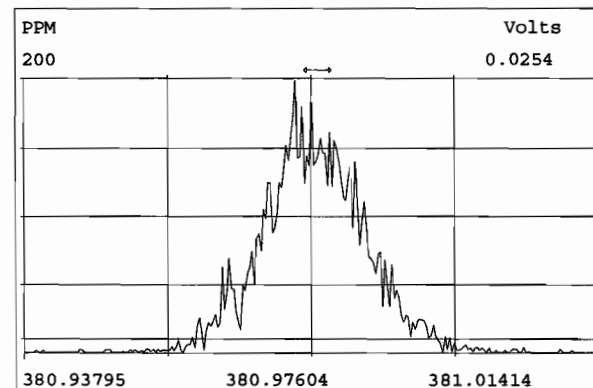
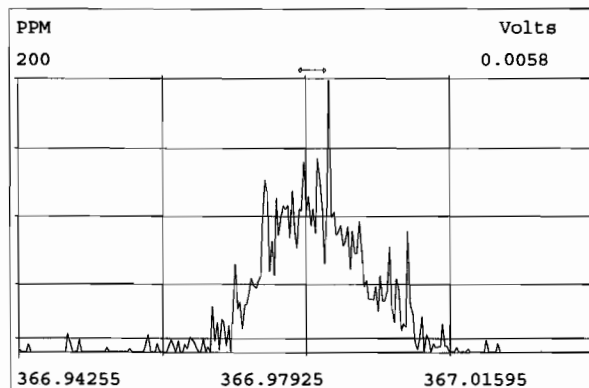
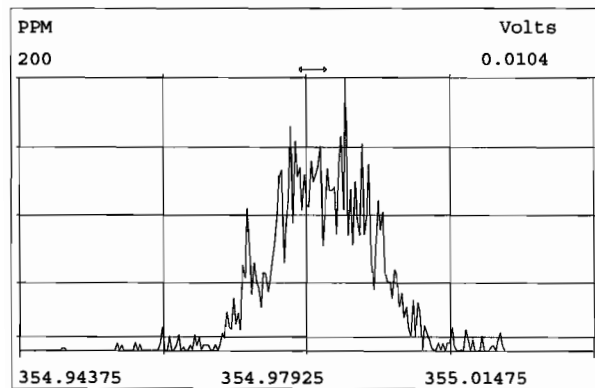
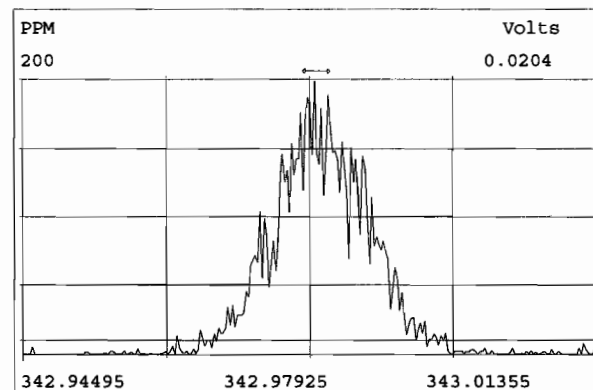
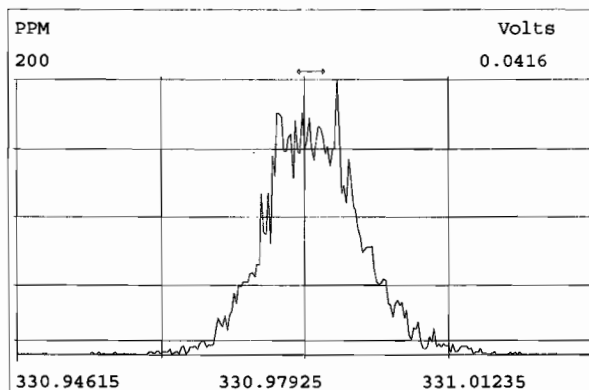
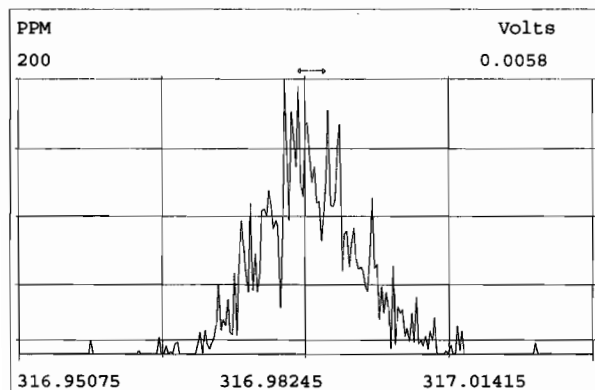
File:190712D1 #1-432 Acq:12-JUL-2019 13:34:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190712D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



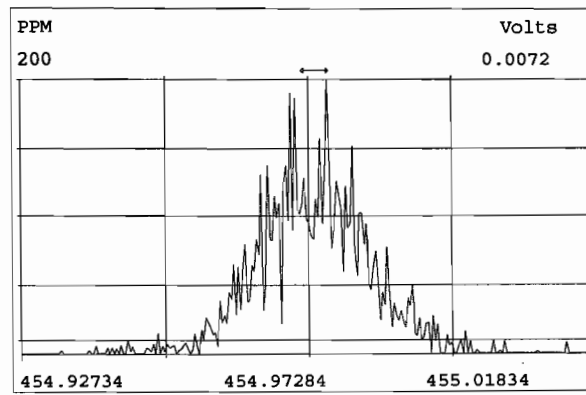
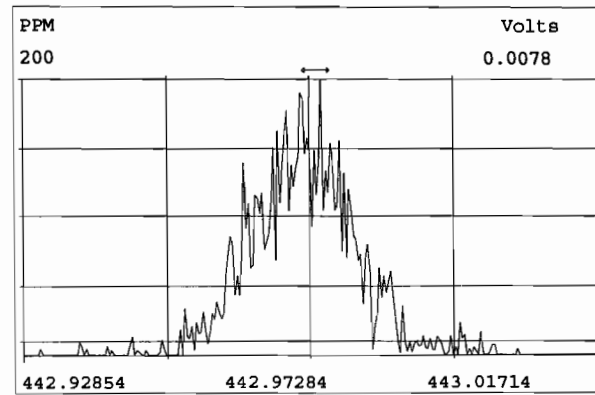
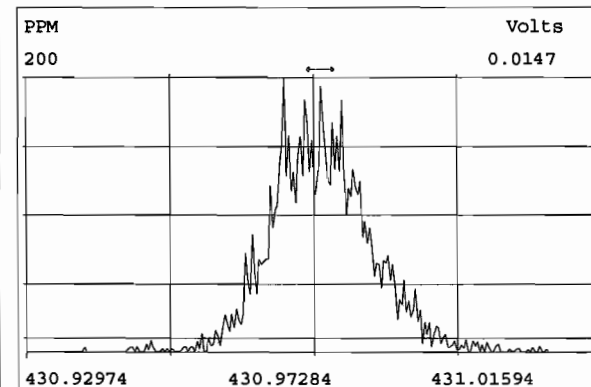
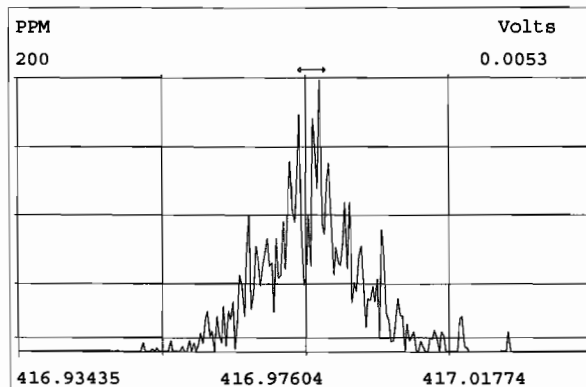
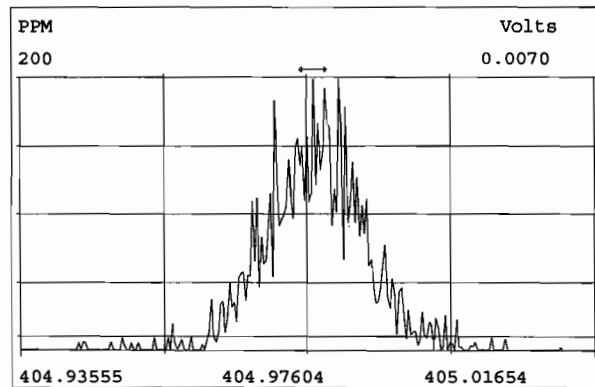
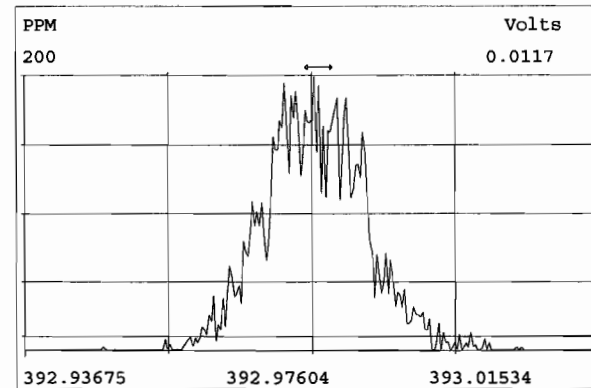
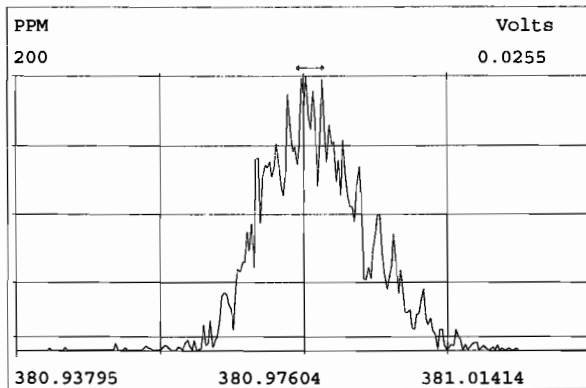
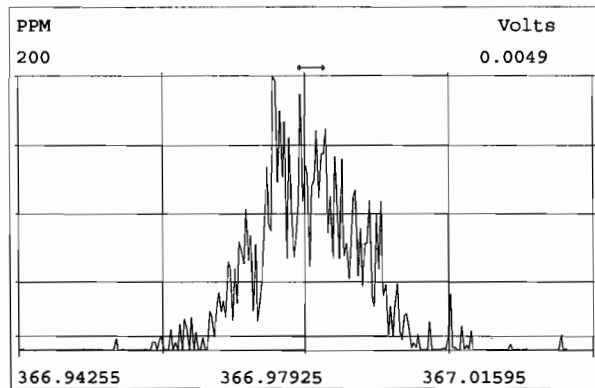


Peak Locate Examination:13-JUL-2019:00:06 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK

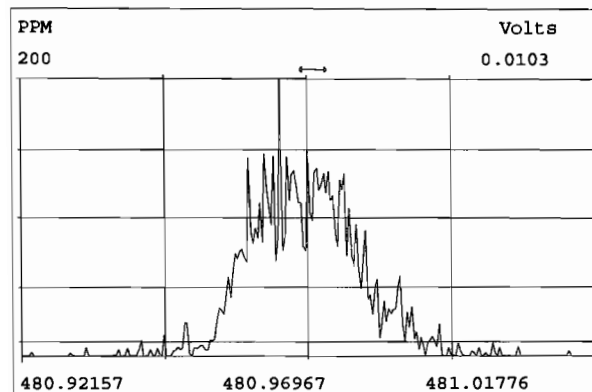
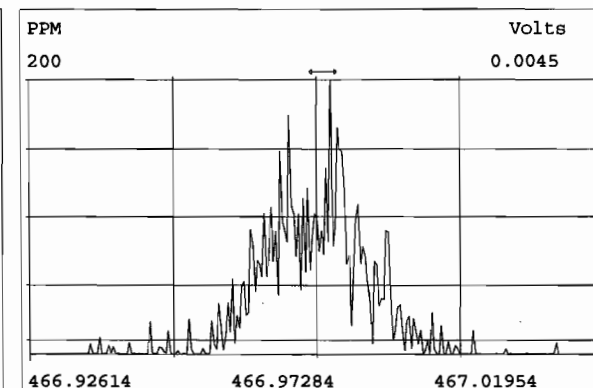
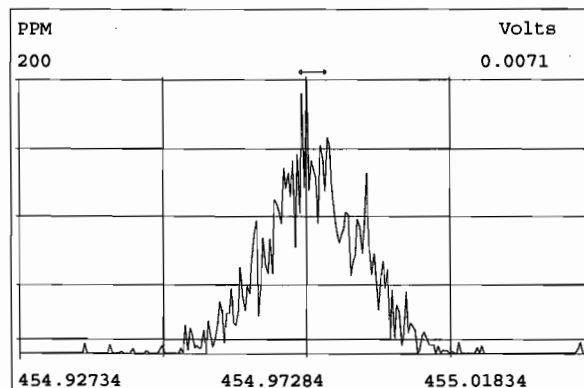
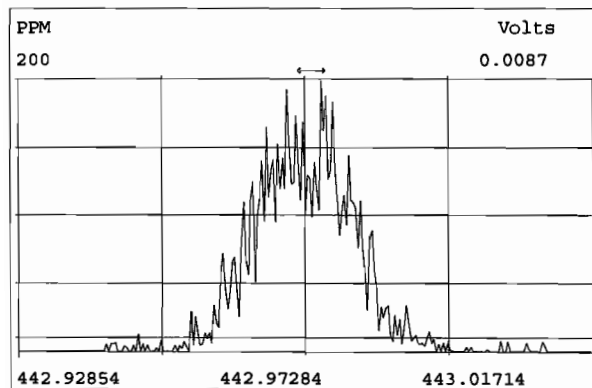
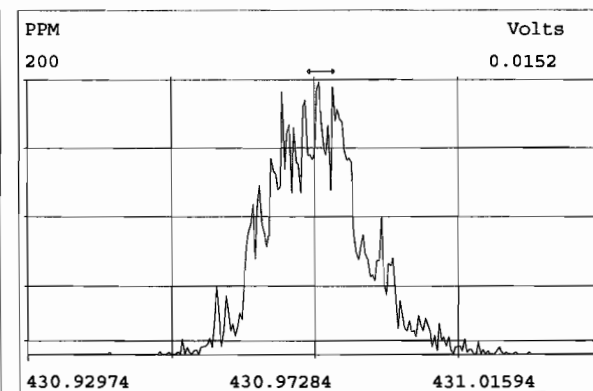
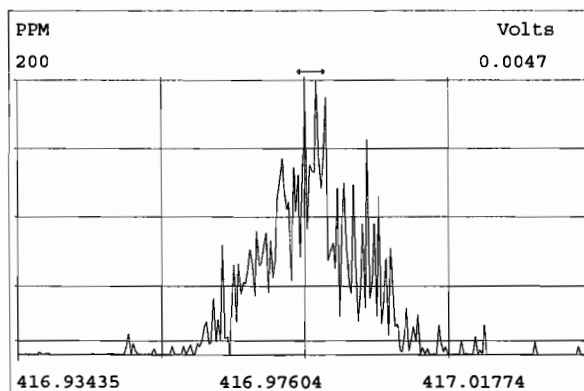
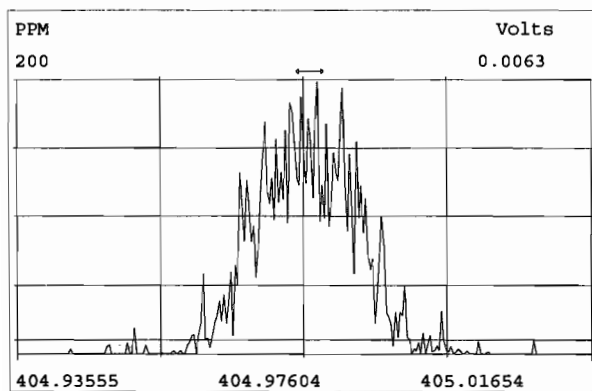


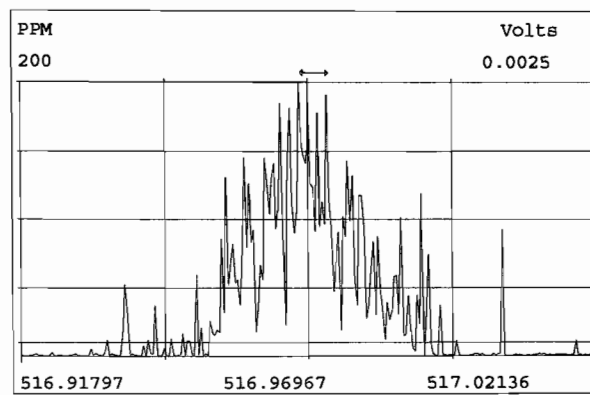
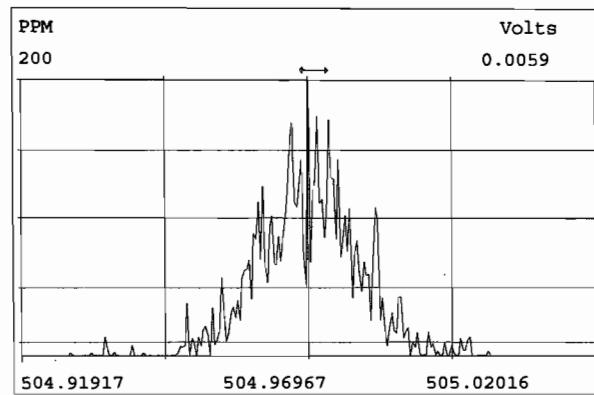
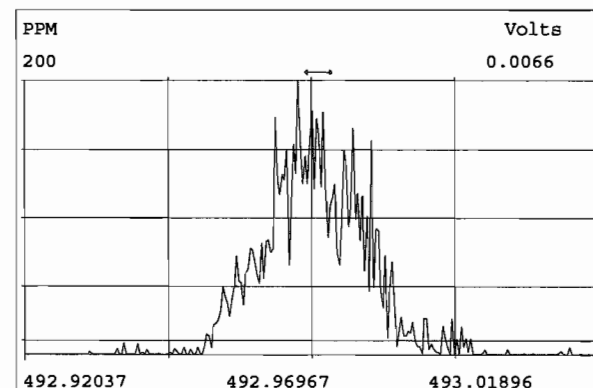
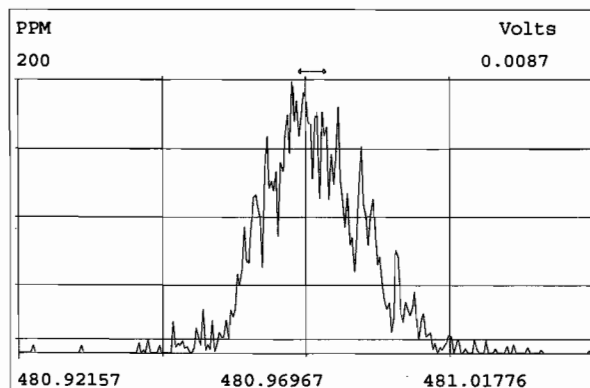
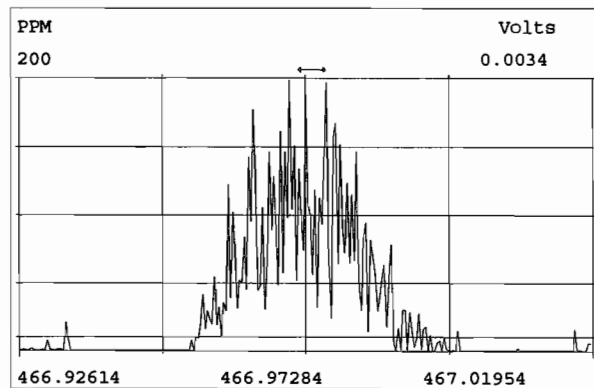
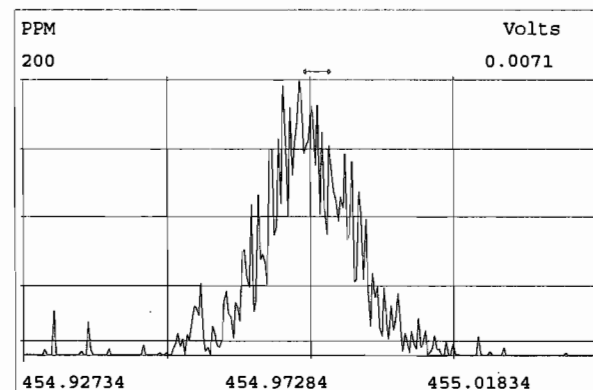
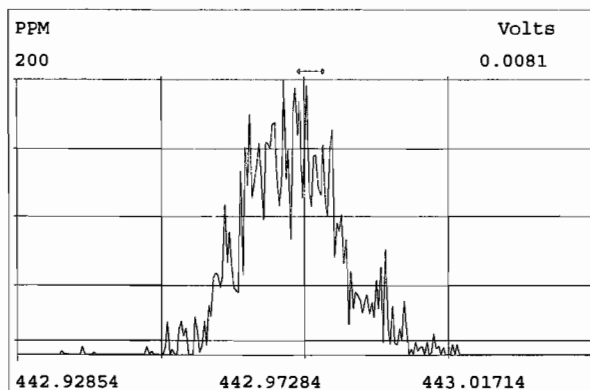
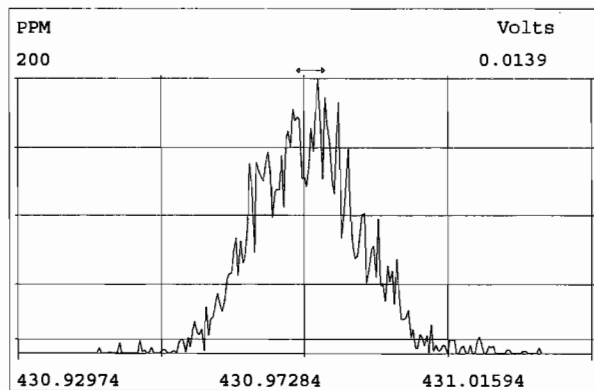
Experiment:OCDD_DB5 Function:3 Reference:PFK



Peak Locate Examination:13-JUL-2019:00:08 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK





HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST190719D1-1

Reviewed By: CT 07/22/19
Initials & Date

End Calibration ID: NA

	<u>Beg.</u>	<u>End</u>
Ion abundance within QC limits?		

Concentrations within criteria? ☒ ☐

TCDD/TCDF Valleys <25%  

First and last eluters present? ☒ ☐

Retention Times within criteria? ☒ ☐

Verification Std. named correctly? ☒ ☐

(ST-Year-Month-Day-VG ID)

Forms signed and dated? ☒ ☐

Correct ICAL referenced? 1/8

Run Log:

- Correct instrument listed? ☒ ☒

- Samples within 12 hour clock? (Y) N

- Bottle position verified? *VB*

Mass resolution >

☐ 5k ☐ 6-8K ☐ 8K ☒ 10K

1614 1699 429 1613/1668/8280

Integrated peaks display correctly? ☒ ☐ NA

GC Break <20% NA

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1
within 12 hours

Comments:

FORM 4A/4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

CCAL ID: ST190719D1-1

Initial Calibration Date: 5-30-19

Instrument ID: VG-7

GC Column ID: DB-225

VER Data Filename: 190719D1 S#2 Analysis Date: 19-JUL-19 Time: 17:36:18

ANALYTES	M/Z'S	ION	QC	CONC.	CONC. RANGE	CONC. RANGE
	FORMING	ABUND.	LIMITS		1613	8290
	RATIO (1)	RATIO	(2)	FOUND	(ng/mL)	(ng/mL)
2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	10.0	8.4 - 12.0 (3) 8.6 - 11.6 (4)	8.0 - 12.0
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	106.8	71.0 - 140.0 (3) 76.0 - 131.0 (4)	70.0 - 130.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6a, Method 1613, under VER.

(4) Contract required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DBDate: 7/19/19

Client ID: 1613 CS3 19C2204

Filename: 190719D1 S:2 Acq:19-JUL-19 17:36:18

ConCal: ST190719D1-1

Page 1 of 1

Lab ID: ST190719D1-1

GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 1.000

EndCAL: NA

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	2.15e+07	0.80 y	15:12	1.00	100.0	-
13C-2,3,7,8-TCDF	2.35e+07	0.79 y	17:19	1.02	106.8	106.8
2,3,7,8-TCDF	2.23e+06	0.83 y	17:21	0.95	10.02	

Integrations

by DB

Analyst: DB

Date: 7/19/19

Reviewed

by CT

Analyst: CT

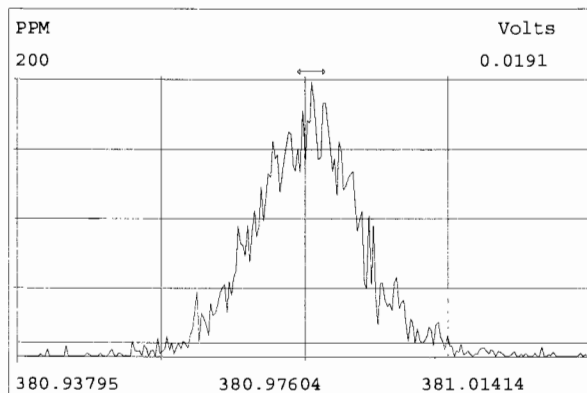
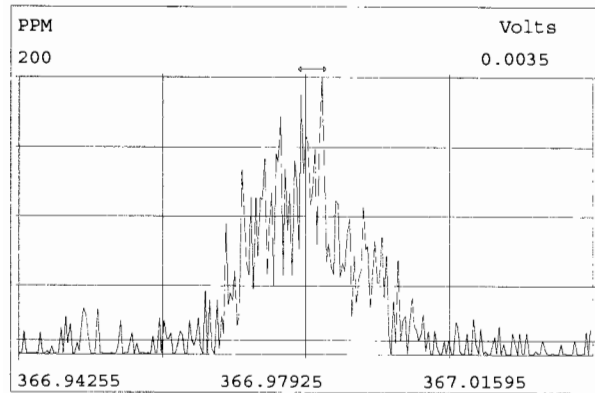
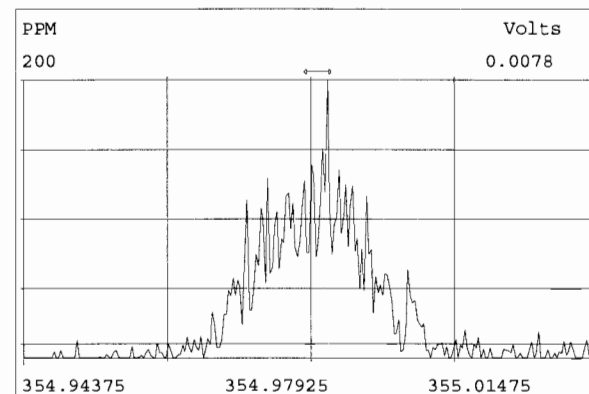
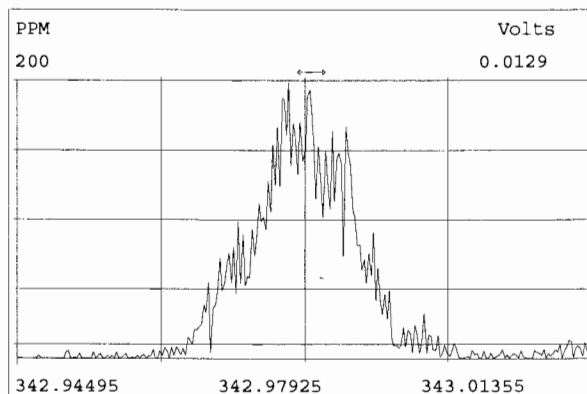
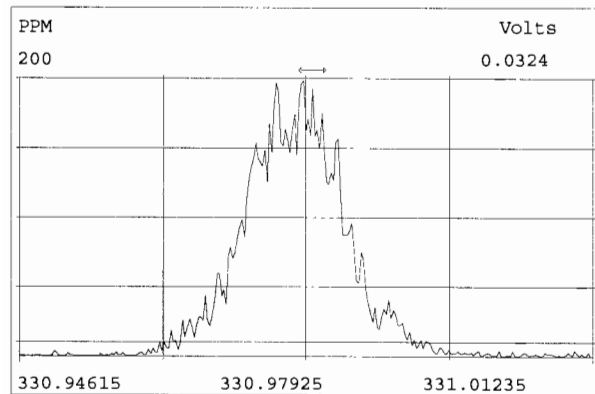
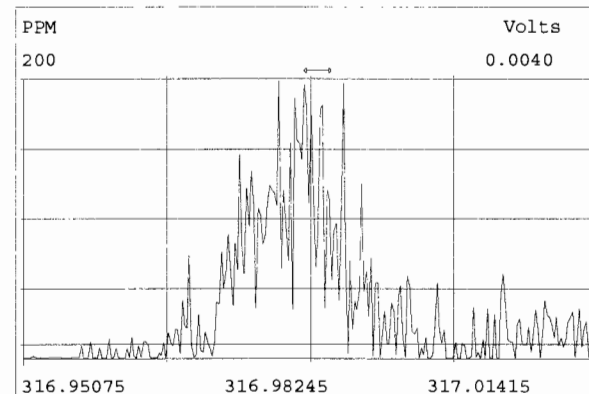
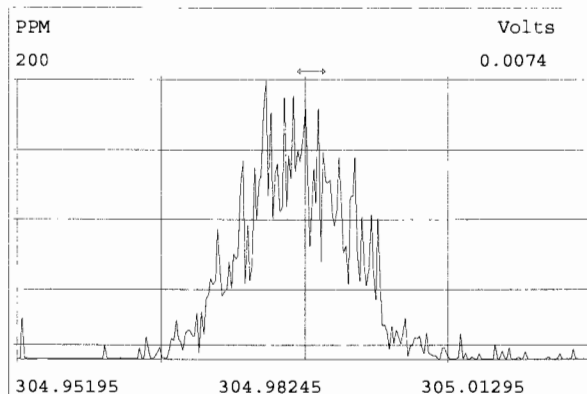
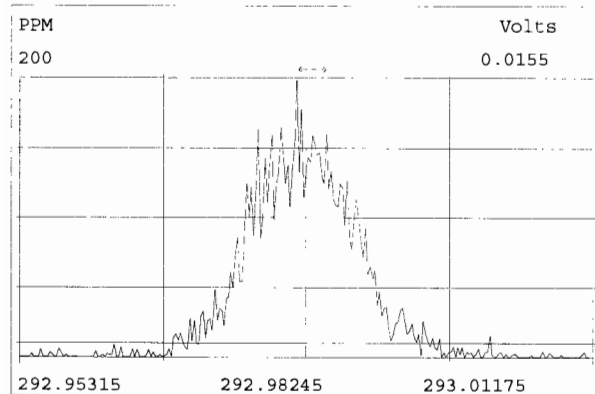
Date: 07/24/19

Vista Analytical Laboratory - Injection Log Run file: 190719D1 Instrument ID: VG-7 GC Column ID: DB-225

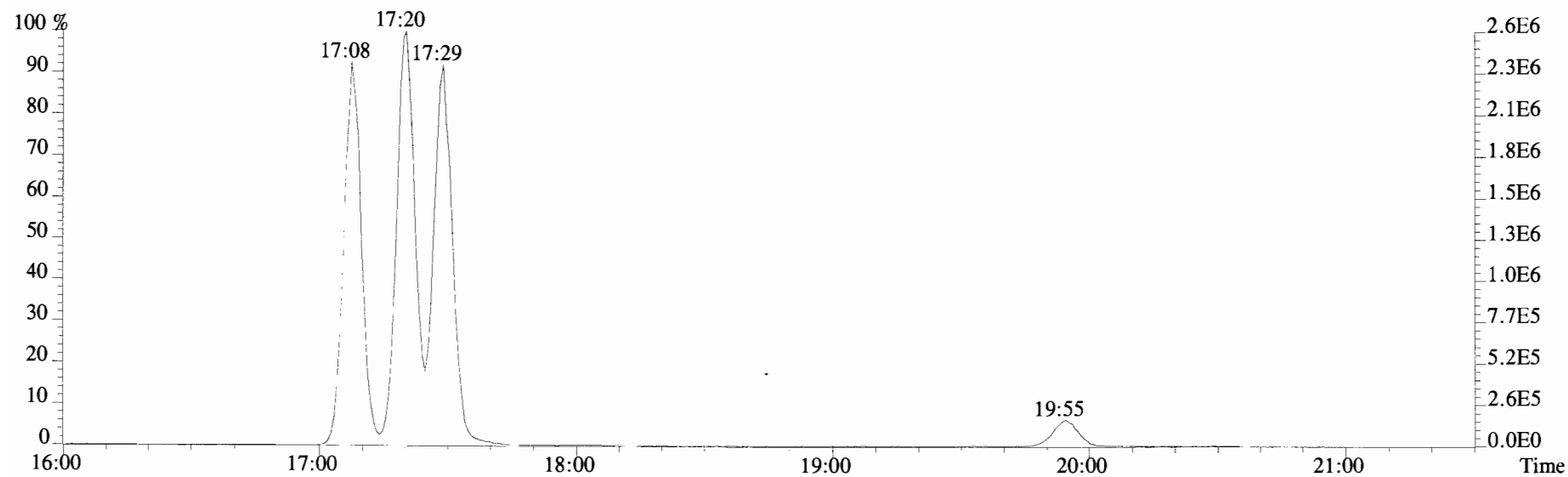
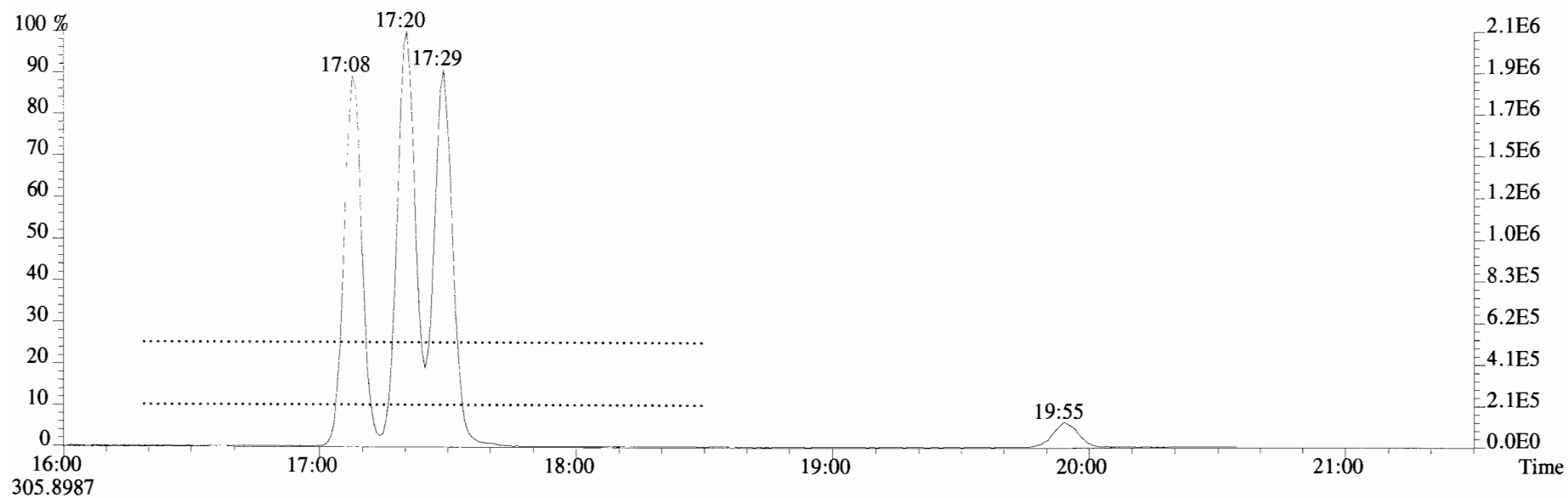
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190719D1	1	CP190719D1-1	DB	19-JUL-19	17:04:28	ST190719D1-1	NA
190719D1	2	ST190719D1-1	DB	19-JUL-19	17:36:18	ST190719D1-1	NA
190719D1	3	SOLVENT BLANK	DB	19-JUL-19	18:08:05	ST190719D1-1	NA
190719D1	4	B9F0172-DUP1RE1	DB	19-JUL-19	18:39:52	ST190719D1-1	NA
190719D1	5	B9F0255-DUP2RE1	DB	19-JUL-19	19:11:39	ST190719D1-1	NA
190719D1	6	1901212-01RE2	DB	19-JUL-19	19:43:26	ST190719D1-1	NA
190719D1	7	1901247-03RE1	DB	19-JUL-19	20:15:12	ST190719D1-1	NA
190719D1	8	1901247-06RE1	DB	19-JUL-19	20:46:59	ST190719D1-1	NA
190719D1	9	1901247-07RE1	DB	19-JUL-19	21:18:48	ST190719D1-1	NA
190719D1	10	1901247-08RE2	DB	19-JUL-19	21:50:38	ST190719D1-1	NA
190719D1	11	1901247-09RE2	DB	19-JUL-19	22:22:27	ST190719D1-1	NA
190719D1	12	1901246-01RE1	DB	19-JUL-19	22:54:17	ST190719D1-1	NA
190719D1	13	1901246-02RE1	DB	19-JUL-19	23:26:07	ST190719D1-1	NA
190719D1	14	1901246-03RE1	DB	19-JUL-19	23:57:57	ST190719D1-1	NA
190719D1	15	1901246-07RE1	DB	20-JUL-19	00:29:46	ST190719D1-1	NA
190719D1	16	1901247-01RE2	DB	20-JUL-19	01:01:38	ST190719D1-1	NA
190719D1	17	1901247-04RE1	DB	20-JUL-19	01:33:30	ST190719D1-1	NA
190719D1	18	1901212-08RE2	DB	20-JUL-19	02:05:22	ST190719D1-1	NA
190719D1	19	1902058-01RE1	DB	20-JUL-19	02:37:13	ST190719D1-1	NA
190719D1	20	1901751-01RE1	DB	20-JUL-19	03:09:05	ST190719D1-1	NA

Peak Locate Examination:19-JUL-2019:17:03 File:190719D1

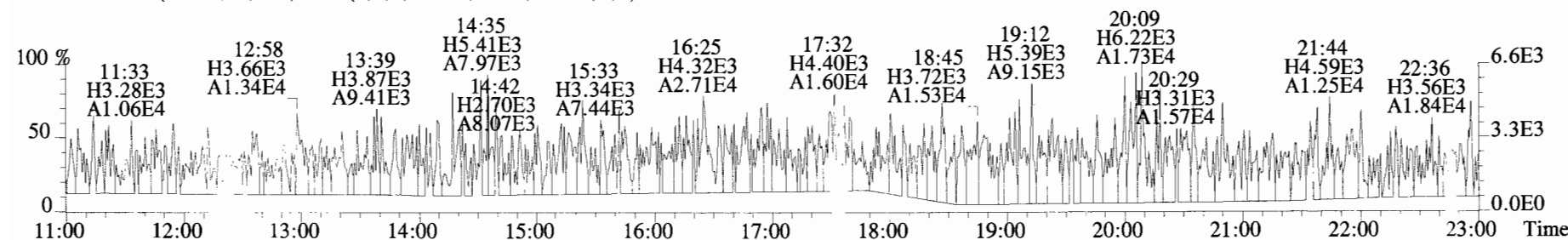
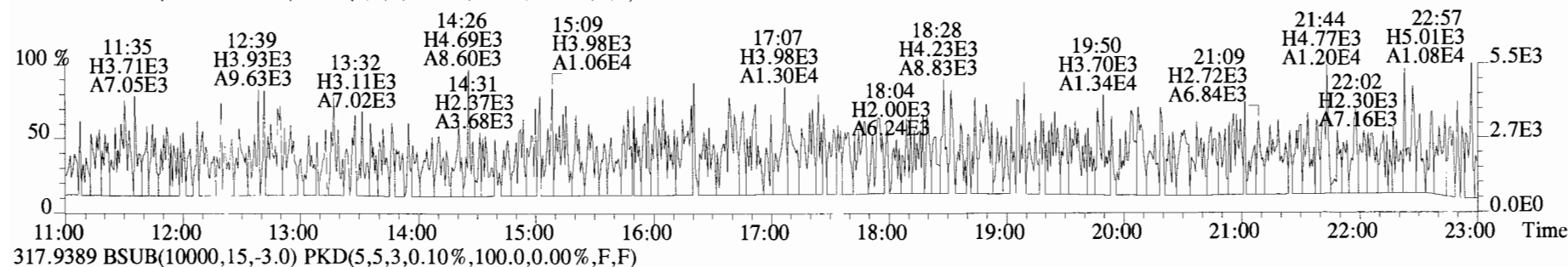
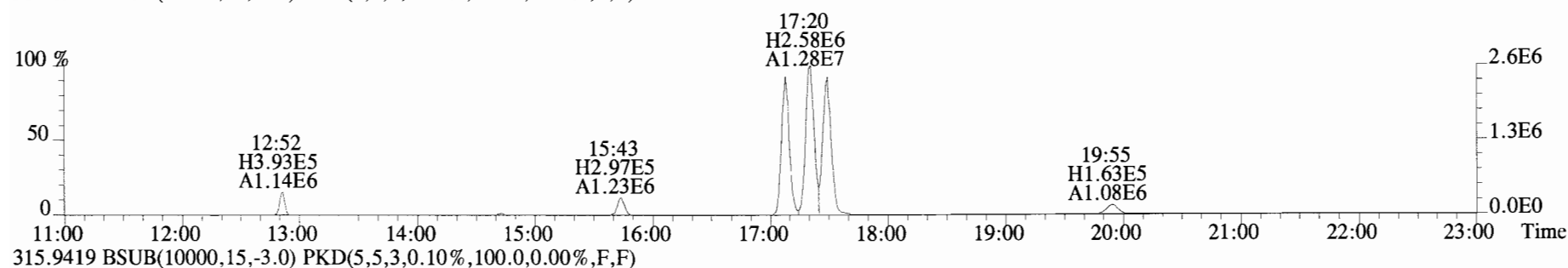
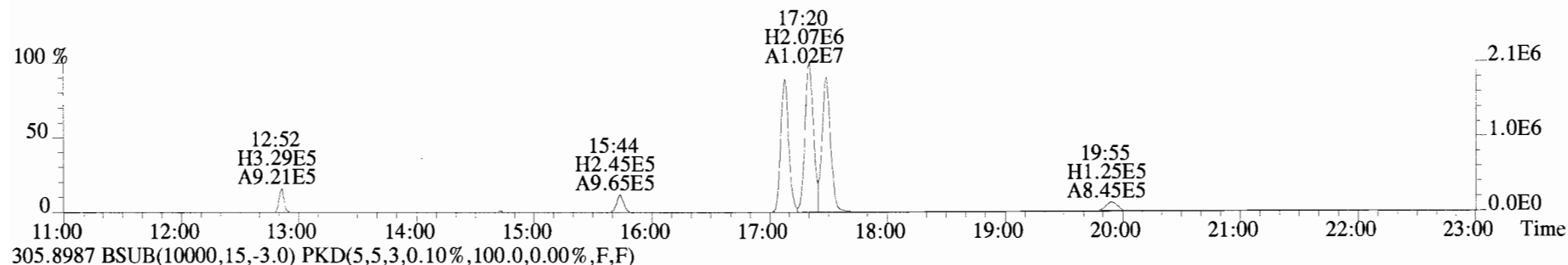
Experiment:TCDF_DB225 Function:1 Reference:PFK



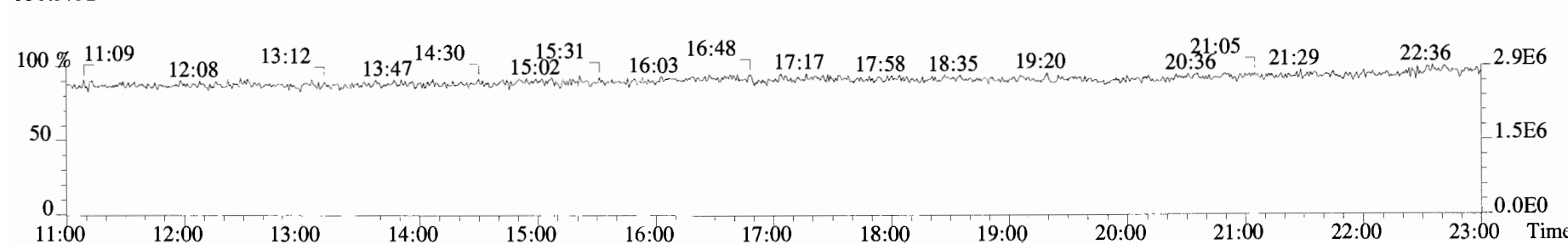
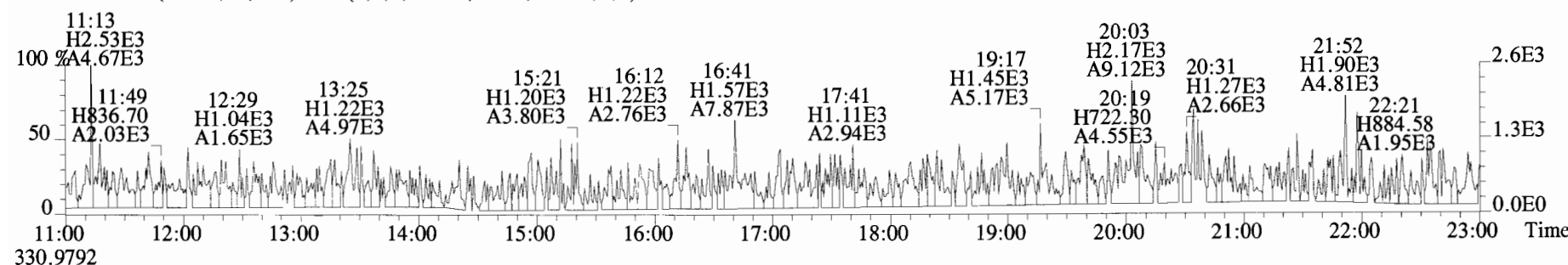
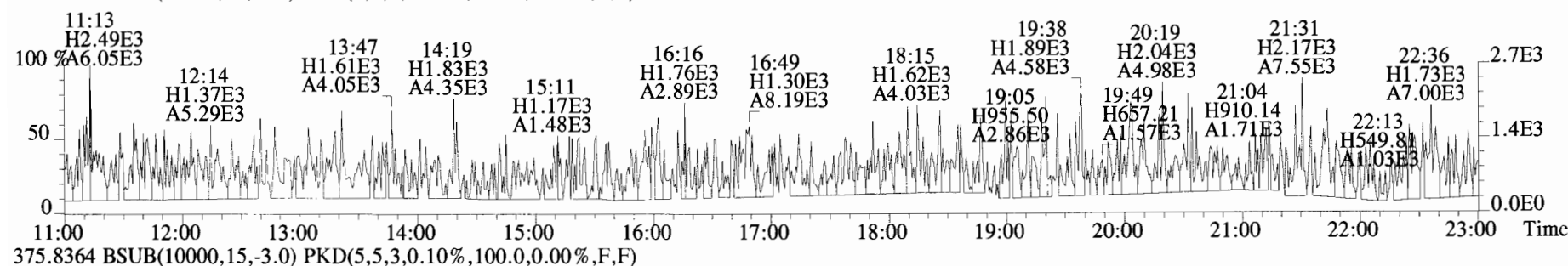
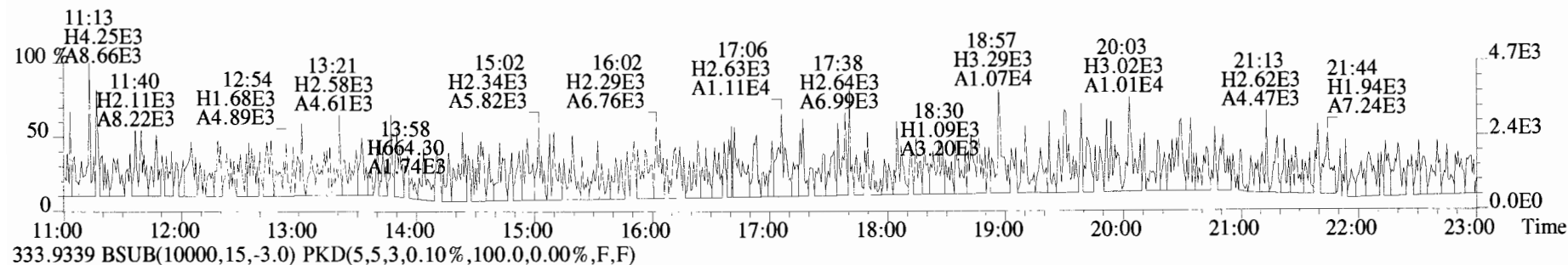
File:190719D1 #1-973 Acq:19-JUL-2019 17:04:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:CP190719D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016



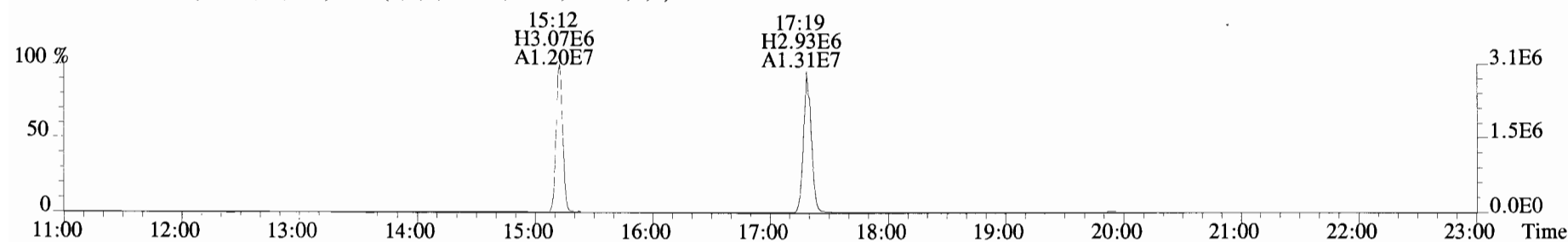
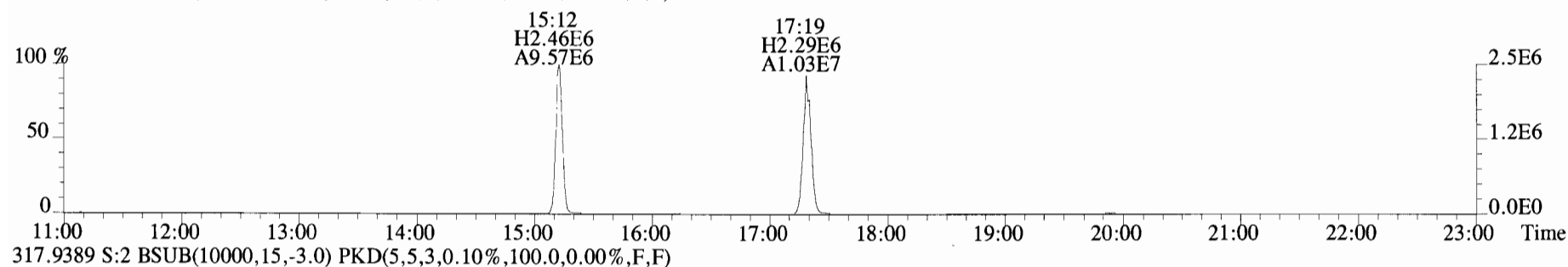
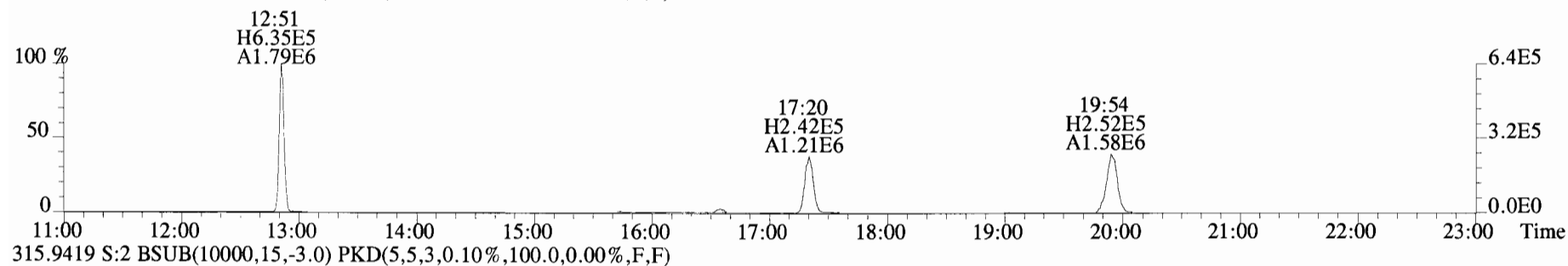
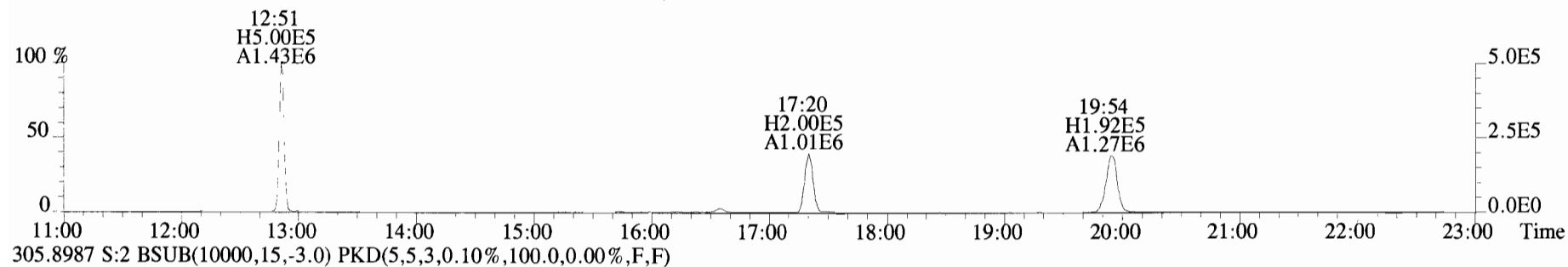
File:190719D1 #1-1682 Acq:19-JUL-2019 17:04:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190719D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



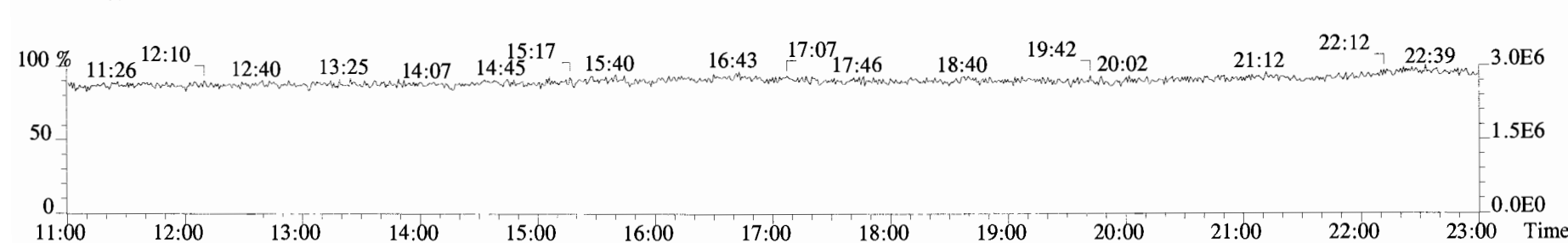
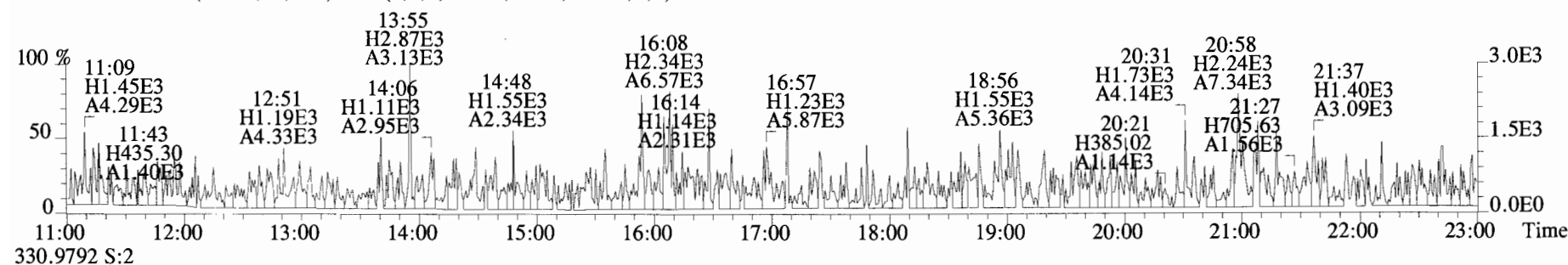
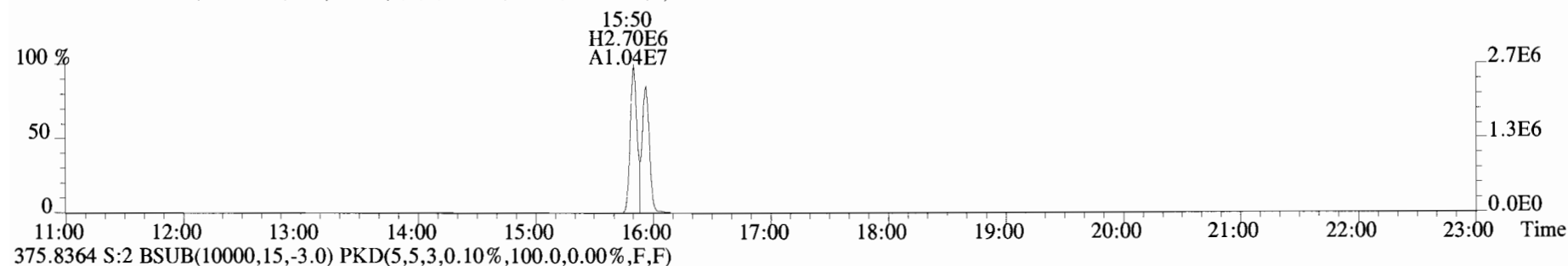
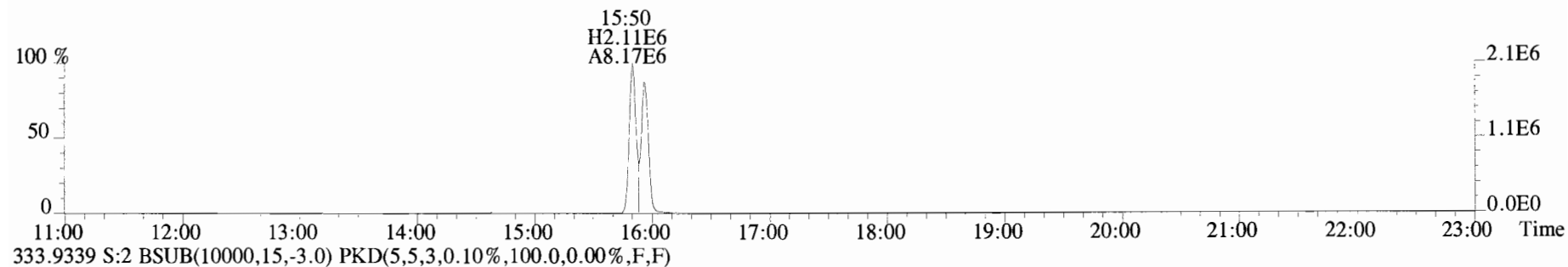
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Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190719D1-1 DB225 CPSM Exp:TCDF_DB225
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

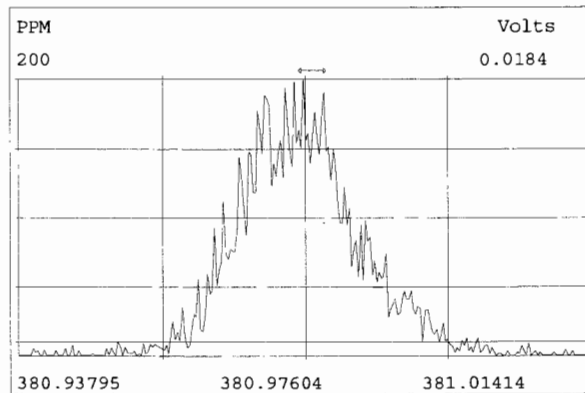
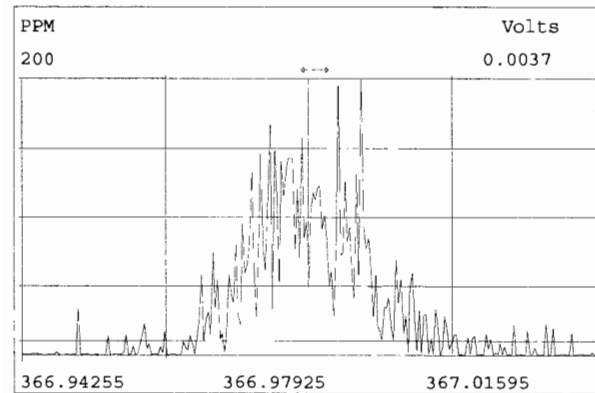
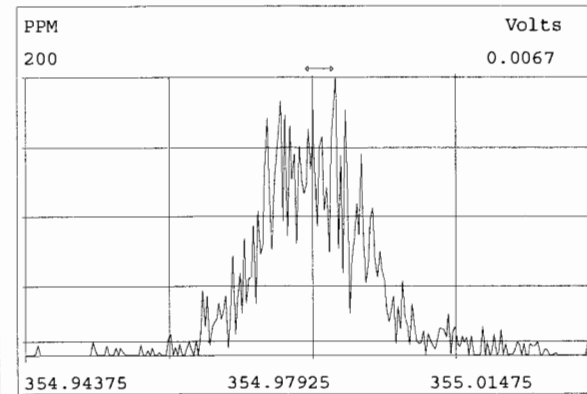
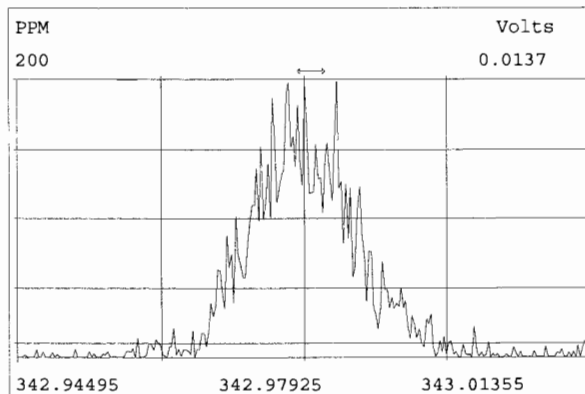
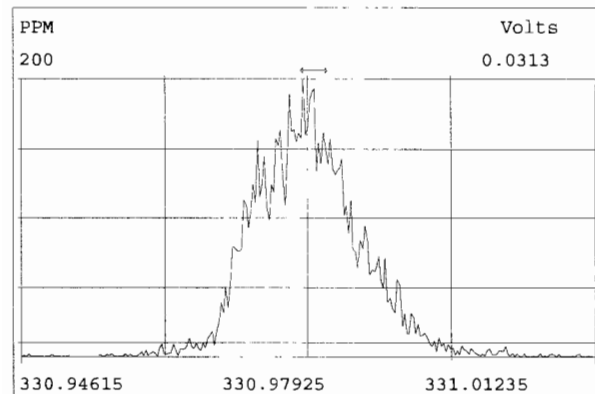
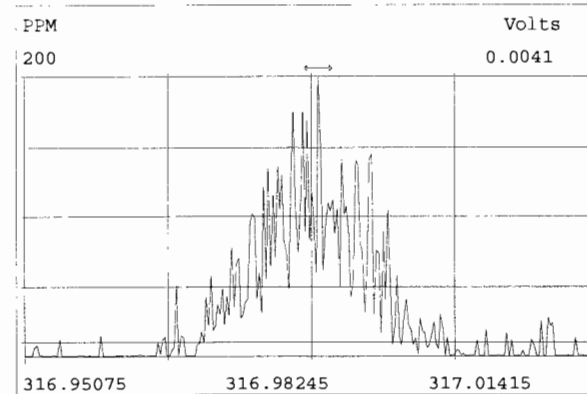
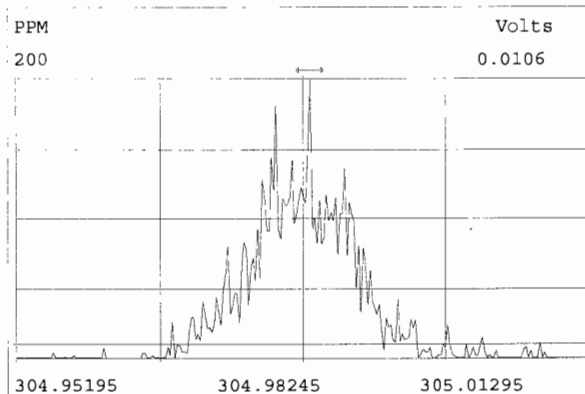
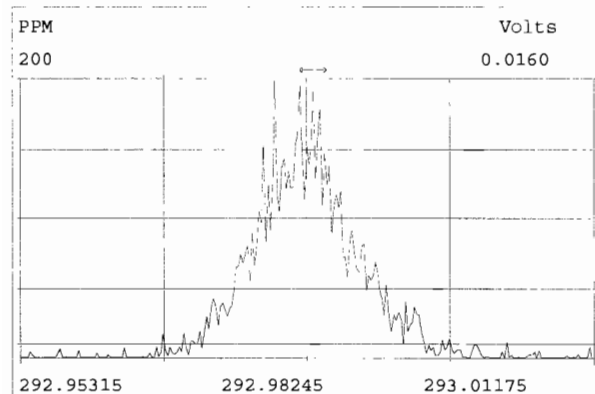


File:190719D1 #1-1683 Acq:19-JUL-2019 17:36:18 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190719D1-1 1613 CS3 19C2204 Exp:TCDF_DB225
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190719D1 #1-1683 Acq:19-JUL-2019 17:36:18 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190719D1-1 1613 CS3 19C2204 Exp:TCDF_DB225
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





INITIAL CALIBRATION

Initial Calibration RRF Summary (ICAL)

Vista Analytical Laboratory

Run: 190510D2

Analyte:

Cal: 1613VG7-5-10-19

Inst. ID. VG-7

Data filename: 190510D2

Samp# 1

Samp# 2

Samp# 3

Samp# 4

Samp# 5

Samp# 6

0.25

0.50

2.0

10

40

300

Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
2,3,7,8-TCDD	0.90	6.57 %	0.90	0.80	0.95	0.86	0.94	0.95
1,2,3,7,8-PeCDD	0.87	6.42 %	0.89	0.94	0.90	0.78	0.85	0.87
1,2,3,4,7,8-HxCDD	1.05	9.29 %	0.96	0.97	0.98	1.04	1.17	1.17
1,2,3,6,7,8-HxCDD	0.93	8.35 %	0.88	0.88	0.91	0.86	0.99	1.05
1,2,3,7,8,9-HxCDD	0.96	8.79 %	0.98	0.89	0.89	0.89	1.05	1.07
1,2,3,4,6,7,8-HpCDD	0.99	10.09 %	0.94	0.89	0.90	0.99	1.10	1.12
OCDD	0.99	7.57 %	0.93	0.91	0.94	0.98	1.08	1.08
2,3,7,8-TCDF	0.94	5.57 %	0.97	0.91	0.92	0.87	1.00	0.99
1,2,3,7,8-PeCDF	0.92	4.71 %	0.86	0.94	0.94	0.88	0.96	0.96
2,3,4,7,8-PeCDF	0.96	4.77 %	0.95	0.93	0.97	0.88	0.99	1.01
1,2,3,4,7,8-HxCDF	1.15	9.95 %	1.10	1.08	1.02	1.13	1.28	1.31
1,2,3,6,7,8-HxCDF	1.04	13.16 %	0.94	0.91	0.92	1.06	1.18	1.21
2,3,4,6,7,8-HxCDF	1.10	11.28 %	1.03	0.97	0.97	1.14	1.23	1.24
1,2,3,7,8,9-HxCDF	1.03	10.60 %	0.93	0.95	0.92	1.10	1.13	1.16
1,2,3,4,6,7,8-HpCDF	1.06	8.75 %	0.98	0.94	1.03	1.12	1.15	1.16
1,2,3,4,7,8,9-HpCDF	1.23	10.34 %	1.16	1.12	1.07	1.26	1.38	1.35
OCDF	0.94	12.29 %	0.85	0.83	0.85	0.97	1.05	1.10
13C-2,3,7,8-TCDD	1.11	2.01 %	1.12	1.09	1.10	1.14	1.08	1.11
13C-1,2,3,7,8-PeCDD	0.98	9.80 %	0.91	0.90	0.87	1.11	1.05	1.01
13C-1,2,3,4,7,8-HxCDD	0.68	4.26 %	0.67	0.65	0.72	0.70	0.64	0.67
13C-1,2,3,6,7,8-HxCDD	0.84	5.78 %	0.86	0.82	0.86	0.92	0.80	0.78
13C-1,2,3,7,8,9-HxCDD	0.81	4.72 %	0.82	0.78	0.85	0.85	0.77	0.79
13C-1,2,3,4,6,7,8-HpCDD	0.69	8.78 %	0.68	0.63	0.71	0.79	0.67	0.63
13C-OCDD	0.62	9.24 %	0.62	0.58	0.65	0.73	0.59	0.57
13C-2,3,7,8-TCDF	1.05	2.81 %	1.03	1.04	1.06	1.06	1.02	1.10
13C-1,2,3,7,8-PeCDF	0.95	4.06 %	0.92	0.95	0.95	1.03	0.95	0.93
13C-2,3,4,7,8-PeCDF	0.94	6.37 %	0.93	0.94	0.93	1.05	0.90	0.87
13C-1,2,3,4,7,8-HxCDF	0.86	4.27 %	0.87	0.83	0.90	0.89	0.83	0.82
13C-1,2,3,6,7,8-HxCDF	1.02	5.53 %	1.07	0.99	1.09	1.04	0.98	0.95
13C-2,3,4,6,7,8-HxCDF	0.95	2.98 %	0.94	0.90	0.96	0.96	0.98	0.97
13C-1,2,3,7,8,9-HxCDF	0.87	5.08 %	0.83	0.81	0.85	0.88	0.91	0.92
13C-1,2,3,4,6,7,8-HpCDF	0.81	12.94 %	0.70	0.71	0.74	0.90	0.94	0.86
13C-1,2,3,4,7,8,9-HpCDF	0.63	11.56 %	0.57	0.56	0.59	0.75	0.66	0.65
13C-OCDF	0.78	9.30 %	0.76	0.71	0.75	0.92	0.80	0.76
37Cl-2,3,7,8-TCDD	1.22	8.68 %	1.36	1.32	1.16	1.08	1.17	1.22
13C-1,2,3,4-TCDD	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00

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Filename: 190510D2 S: 1 Acquired: 10-MAY-19 14:24:45
 Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19
 Sample text: ST190510D2-1 1613 CS0 19C2201

Results: 190510D2

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.25	1.72e+04	0.74 y	26:10	-	0.90
2	Unk	1,2,3,7,8-PeCDD	1.25	6.93e+04	0.69 y	30:37	-	0.89
3	Unk	1,2,3,4,7,8-HxCDD	1.25	6.06e+04	1.22 y	33:54	-	0.96
4	Unk	1,2,3,6,7,8-HxCDD	1.25	7.11e+04	1.08 y	34:01	-	0.88
5	Unk	1,2,3,7,8,9-HxCDD	1.25	7.57e+04	1.08 y	34:19	-	0.98
6	Unk	1,2,3,4,6,7,8-HpCDD	1.25	5.98e+04	0.98 y	37:46	-	0.94
7	Unk	OCDD	2.50	1.09e+05	0.79 y	41:03	-	0.93
8	Unk	2,3,7,8-TCDF	0.25	2.42e+04	0.84 y	25:25	-	0.97
9	Unk	1,2,3,7,8-PeCDF	1.25	9.56e+04	1.75 y	29:26	-	0.86
10	Unk	2,3,4,7,8-PeCDF	1.25	1.07e+05	1.35 y	30:20	-	0.95
11	Unk	1,2,3,4,7,8-HxCDF	1.25	9.07e+04	1.11 y	33:01	-	1.10
12	Unk	1,2,3,6,7,8-HxCDF	1.25	9.46e+04	1.15 y	33:08	-	0.94
13	Unk	2,3,4,6,7,8-HxCDF	1.25	9.04e+04	1.26 y	33:44	-	1.03
14	Unk	1,2,3,7,8,9-HxCDF	1.25	7.29e+04	1.32 y	34:44	-	0.93
15	Unk	1,2,3,4,6,7,8-HpCDF	1.25	6.46e+04	0.93 y	36:33	-	0.98
16	Unk	1,2,3,4,7,8,9-HpCDF	1.25	6.19e+04	0.96 y	38:19	-	1.16
17	Unk	OCDF	2.50	1.21e+05	0.84 y	41:17	-	0.85
36	IS	13C-2,3,7,8-TCDD	100.00	7.65e+06	0.78 y	26:10	-	1.12
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.21e+06	0.61 y	30:36	-	0.91
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.03e+06	1.22 y	33:54	-	0.67
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.47e+06	1.23 y	34:01	-	0.86
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.21e+06	1.22 y	34:19	-	0.82
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.11e+06	1.07 y	37:45	-	0.68
42	IS	13C-OCDD	200.00	9.40e+06	0.90 y	41:02	-	0.62
43	IS	13C-2,3,7,8-TCDF	100.00	1.00e+07	0.80 y	25:25	-	1.03
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.93e+06	1.58 y	29:26	-	0.92
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.01e+06	1.65 y	30:20	-	0.93
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.58e+06	0.51 y	33:00	-	0.87
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.07e+06	0.52 y	33:08	-	1.07
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.05e+06	0.52 y	33:44	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	6.28e+06	0.52 y	34:44	-	0.83
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.25e+06	0.42 y	36:32	-	0.70
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.27e+06	0.39 y	38:19	-	0.57
52	IS	13C-OCDF	200.00	1.14e+07	0.89 y	41:17	-	0.76
53	C/Up	37Cl-2,3,7,8-TCDD	0.25	2.32e+04		26:10	-	1.36
54	RS/RT	13C-1,2,3,4-TCDD	100.00	6.82e+06	0.78 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	9.73e+06	0.81 y	24:11	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.52e+06	0.52 y	33:26	-	1.00

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Filename: 190510D2 S: 2 Acquired: 10-MAY-19 15:12:30

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-2 1613 CS1 19C2202

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.50	2.78e+04	0.80 y	26:10	-	0.80
2	Unk	1,2,3,7,8-PeCDD	2.50	1.35e+05	0.63 y	30:36	-	0.94
3	Unk	1,2,3,4,7,8-HxCDD	2.50	1.13e+05	1.21 y	33:54	-	0.97
4	Unk	1,2,3,6,7,8-HxCDD	2.50	1.29e+05	1.12 y	34:00	-	0.88
5	Unk	1,2,3,7,8,9-HxCDD	2.50	1.24e+05	1.23 y	34:19	-	0.89
6	Unk	1,2,3,4,6,7,8-HpCDD	2.50	9.95e+04	1.02 y	37:45	-	0.89
7	Unk	OCDD	5.00	1.90e+05	0.90 y	41:02	-	0.91
8	Unk	2,3,7,8-TCDF	0.50	4.28e+04	0.81 y	25:25	-	0.91
9	Unk	1,2,3,7,8-PeCDF	2.50	2.02e+05	1.60 y	29:27	-	0.94
10	Unk	2,3,4,7,8-PeCDF	2.50	1.98e+05	1.64 y	30:20	-	0.93
11	Unk	1,2,3,4,7,8-HxCDF	2.50	1.59e+05	1.26 y	33:01	-	1.08
12	Unk	1,2,3,6,7,8-HxCDF	2.50	1.61e+05	1.10 y	33:08	-	0.91
13	Unk	2,3,4,6,7,8-HxCDF	2.50	1.56e+05	1.24 y	33:44	-	0.97
14	Unk	1,2,3,7,8,9-HxCDF	2.50	1.36e+05	1.18 y	34:44	-	0.95
15	Unk	1,2,3,4,6,7,8-HpCDF	2.50	1.19e+05	0.99 y	36:32	-	0.94
16	Unk	1,2,3,4,7,8,9-HpCDF	2.50	1.13e+05	1.00 y	38:19	-	1.12
17	Unk	OCDF	5.00	2.10e+05	0.93 y	41:16	-	0.83
36	IS	13C-2,3,7,8-TCDD	100.00	6.94e+06	0.78 y	26:09	-	1.09
37	IS	13C-1,2,3,7,8-PeCDD	100.00	5.74e+06	0.63 y	30:36	-	0.90
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.64e+06	1.23 y	33:53	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.87e+06	1.26 y	34:00	-	0.82
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.55e+06	1.23 y	34:19	-	0.78
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.49e+06	1.03 y	37:45	-	0.63
42	IS	13C-OCDD	200.00	8.35e+06	0.91 y	41:02	-	0.58
43	IS	13C-2,3,7,8-TCDF	100.00	9.42e+06	0.82 y	25:25	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.60e+06	1.60 y	29:27	-	0.95
45	IS	13C-2,3,4,7,8-PeCDF	100.00	8.49e+06	1.58 y	30:20	-	0.94
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.90e+06	0.52 y	32:60	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.06e+06	0.50 y	33:08	-	0.99
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.44e+06	0.51 y	33:44	-	0.90
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.76e+06	0.51 y	34:43	-	0.81
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.08e+06	0.43 y	36:32	-	0.71
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.01e+06	0.41 y	38:18	-	0.56
52	IS	13C-OCDF	200.00	1.01e+07	0.89 y	41:16	-	0.71
53	C/Up	37Cl-2,3,7,8-TCDD	0.50	4.20e+04		26:10	-	1.32
54	RS/RT	13C-1,2,3,4-TCDD	100.00	6.37e+06	0.81 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	9.03e+06	0.81 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.15e+06	0.50 y	33:25	-	1.00

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Filename: 190510D2 S: 3 Acquired: 10-MAY-19 16:00:06

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-3 1613 CS2 19C2203

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	2.00	1.38e+05	0.86 y	26:11	-	0.95
2	Unk	1,2,3,7,8-PeCDD	10.00	5.22e+05	0.63 y	30:36	-	0.90
3	Unk	1,2,3,4,7,8-HxCDD	10.00	4.65e+05	1.19 y	33:54	-	0.98
4	Unk	1,2,3,6,7,8-HxCDD	10.00	5.21e+05	1.27 y	34:01	-	0.91
5	Unk	1,2,3,7,8,9-HxCDD	10.00	4.98e+05	1.14 y	34:19	-	0.89
6	Unk	1,2,3,4,6,7,8-HpCDD	10.00	4.24e+05	0.99 y	37:45	-	0.90
7	Unk	OCDD	20.00	8.06e+05	0.93 y	41:02	-	0.94
8	Unk	2,3,7,8-TCDF	2.00	1.80e+05	0.77 y	25:26	-	0.92
9	Unk	1,2,3,7,8-PeCDF	10.00	8.13e+05	1.63 y	29:27	-	0.94
10	Unk	2,3,4,7,8-PeCDF	10.00	8.19e+05	1.61 y	30:21	-	0.97
11	Unk	1,2,3,4,7,8-HxCDF	10.00	6.06e+05	1.12 y	33:01	-	1.02
12	Unk	1,2,3,6,7,8-HxCDF	10.00	6.63e+05	1.20 y	33:08	-	0.92
13	Unk	2,3,4,6,7,8-HxCDF	10.00	6.18e+05	1.17 y	33:45	-	0.97
14	Unk	1,2,3,7,8,9-HxCDF	10.00	5.17e+05	1.14 y	34:44	-	0.92
15	Unk	1,2,3,4,6,7,8-HpCDF	10.00	5.02e+05	0.99 y	36:32	-	1.03
16	Unk	1,2,3,4,7,8,9-HpCDF	10.00	4.21e+05	0.92 y	38:18	-	1.07
17	Unk	OCDF	20.00	8.37e+05	0.91 y	41:16	-	0.85
36	IS	13C-2,3,7,8-TCDD	100.00	7.28e+06	0.80 y	26:10	-	1.10
37	IS	13C-1,2,3,7,8-PeCDD	100.00	5.80e+06	0.63 y	30:36	-	0.87
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.74e+06	1.22 y	33:53	-	0.72
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.70e+06	1.25 y	33:60	-	0.86
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.63e+06	1.20 y	34:18	-	0.85
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.70e+06	1.04 y	37:44	-	0.71
42	IS	13C-OCDD	200.00	8.55e+06	0.90 y	41:01	-	0.65
43	IS	13C-2,3,7,8-TCDF	100.00	9.73e+06	0.80 y	25:25	-	1.06
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.68e+06	1.58 y	29:27	-	0.95
45	IS	13C-2,3,4,7,8-PeCDF	100.00	8.48e+06	1.56 y	30:20	-	0.93
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.93e+06	0.51 y	32:60	-	0.90
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.20e+06	0.50 y	33:07	-	1.09
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.35e+06	0.50 y	33:44	-	0.96
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.60e+06	0.50 y	34:42	-	0.85
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.87e+06	0.42 y	36:32	-	0.74
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.92e+06	0.42 y	38:18	-	0.59
52	IS	13C-OCDF	200.00	9.89e+06	0.89 y	41:16	-	0.75
53	C/Up	37Cl-2,3,7,8-TCDD	2.00	1.54e+05		26:11	-	1.16
54	RS/RT	13C-1,2,3,4-TCDD	100.00	6.64e+06	0.79 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	9.16e+06	0.80 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	6.60e+06	0.51 y	33:25	-	1.00

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Filename: 190510D2 S: 4 Acquired: 10-MAY-19 16:47:52

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-4 1613 CS3 19C2204

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	10.00	3.27e+05	0.78 y	26:10	-	0.86
2	Unk	1,2,3,7,8-PeCDD	50.00	1.43e+06	0.62 y	30:36	-	0.78
3	Unk	1,2,3,4,7,8-HxCDD	50.00	1.14e+06	1.20 y	33:54	-	1.04
4	Unk	1,2,3,6,7,8-HxCDD	50.00	1.23e+06	1.23 y	34:01	-	0.86
5	Unk	1,2,3,7,8,9-HxCDD	50.00	1.20e+06	1.18 y	34:19	-	0.89
6	Unk	1,2,3,4,6,7,8-HpCDD	50.00	1.22e+06	1.03 y	37:45	-	0.99
7	Unk	OCDD	100.00	2.22e+06	0.92 y	41:02	-	0.98
8	Unk	2,3,7,8-TCDF	10.00	3.81e+05	0.78 y	25:26	-	0.87
9	Unk	1,2,3,7,8-PeCDF	50.00	1.89e+06	1.51 y	29:27	-	0.88
10	Unk	2,3,4,7,8-PeCDF	50.00	1.93e+06	1.57 y	30:20	-	0.88
11	Unk	1,2,3,4,7,8-HxCDF	50.00	1.58e+06	1.20 y	33:01	-	1.13
12	Unk	1,2,3,6,7,8-HxCDF	50.00	1.74e+06	1.24 y	33:08	-	1.06
13	Unk	2,3,4,6,7,8-HxCDF	50.00	1.71e+06	1.19 y	33:44	-	1.14
14	Unk	1,2,3,7,8,9-HxCDF	50.00	1.51e+06	1.26 y	34:44	-	1.10
15	Unk	1,2,3,4,6,7,8-HpCDF	50.00	1.58e+06	1.01 y	36:32	-	1.12
16	Unk	1,2,3,4,7,8,9-HpCDF	50.00	1.49e+06	1.05 y	38:19	-	1.26
17	Unk	OCDF	100.00	2.79e+06	0.91 y	41:16	-	0.97
36	IS	13C-2,3,7,8-TCDD	100.00	3.78e+06	0.75 y	26:09	-	1.14
37	IS	13C-1,2,3,7,8-PeCDD	100.00	3.68e+06	0.61 y	30:35	-	1.11
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	2.19e+06	1.25 y	33:53	-	0.70
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	2.87e+06	1.18 y	33:60	-	0.92
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	2.67e+06	1.23 y	34:18	-	0.85
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	2.48e+06	1.05 y	37:44	-	0.79
42	IS	13C-OCDD	200.00	4.55e+06	0.90 y	41:01	-	0.73
43	IS	13C-2,3,7,8-TCDF	100.00	4.40e+06	0.81 y	25:25	-	1.06
44	IS	13C-1,2,3,7,8-PeCDF	100.00	4.28e+06	1.54 y	29:26	-	1.03
45	IS	13C-2,3,4,7,8-PeCDF	100.00	4.36e+06	1.61 y	30:19	-	1.05
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	2.80e+06	0.51 y	32:60	-	0.89
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	3.27e+06	0.51 y	33:07	-	1.04
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	3.01e+06	0.51 y	33:44	-	0.96
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	2.76e+06	0.53 y	34:42	-	0.88
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	2.81e+06	0.43 y	36:31	-	0.90
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	2.36e+06	0.44 y	38:18	-	0.75
52	IS	13C-OCDF	200.00	5.75e+06	0.93 y	41:15	-	0.92
53	C/Up	37Cl-2,3,7,8-TCDD	10.00	3.57e+05		26:10	-	1.08
54	RS/RT	13C-1,2,3,4-TCDD	100.00	3.32e+06	0.80 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	4.16e+06	0.82 y	24:11	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	3.13e+06	0.53 y	33:25	-	1.00

DB
5/14/19

Filename: 190510D2 S: 5 Acquired: 10-MAY-19 17:35:29

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-5 1613 CS4 19C2205

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	40.00	1.65e+06	0.80 y	26:10	-	0.94
2	Unk	1,2,3,7,8-PeCDD	200.00	7.26e+06	0.62 y	30:36	-	0.85
3	Unk	1,2,3,4,7,8-HxCDD	200.00	6.64e+06	1.22 y	33:54	-	1.17
4	Unk	1,2,3,6,7,8-HxCDD	200.00	7.06e+06	1.22 y	34:01	-	0.99
5	Unk	1,2,3,7,8,9-HxCDD	200.00	7.15e+06	1.23 y	34:19	-	1.05
6	Unk	1,2,3,4,6,7,8-HpCDD	200.00	6.52e+06	1.06 y	37:44	-	1.10
7	Unk	OCDD	400.00	1.12e+07	0.93 y	41:01	-	1.08
8	Unk	2,3,7,8-TCDF	40.00	2.32e+06	0.78 y	25:26	-	1.00
9	Unk	1,2,3,7,8-PeCDF	200.00	1.03e+07	1.57 y	29:27	-	0.96
10	Unk	2,3,4,7,8-PeCDF	200.00	1.02e+07	1.59 y	30:20	-	0.99
11	Unk	1,2,3,4,7,8-HxCDF	200.00	9.33e+06	1.19 y	33:00	-	1.28
12	Unk	1,2,3,6,7,8-HxCDF	200.00	1.02e+07	1.22 y	33:08	-	1.18
13	Unk	2,3,4,6,7,8-HxCDF	200.00	1.07e+07	1.21 y	33:44	-	1.23
14	Unk	1,2,3,7,8,9-HxCDF	200.00	9.08e+06	1.21 y	34:43	-	1.13
15	Unk	1,2,3,4,6,7,8-HpCDF	200.00	9.58e+06	0.99 y	36:32	-	1.15
16	Unk	1,2,3,4,7,8,9-HpCDF	200.00	8.06e+06	1.03 y	38:18	-	1.38
17	Unk	OCDF	400.00	1.48e+07	0.91 y	41:16	-	1.05
36	IS	13C-2,3,7,8-TCDD	100.00	4.37e+06	0.77 y	26:09	-	1.08
37	IS	13C-1,2,3,7,8-PeCDD	100.00	4.27e+06	0.62 y	30:35	-	1.05
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	2.85e+06	1.22 y	33:53	-	0.64
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	3.55e+06	1.25 y	33:59	-	0.80
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	3.39e+06	1.25 y	34:17	-	0.77
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	2.96e+06	1.01 y	37:44	-	0.67
42	IS	13C-OCDD	200.00	5.20e+06	0.92 y	41:01	-	0.59
43	IS	13C-2,3,7,8-TCDF	100.00	5.78e+06	0.80 y	25:25	-	1.02
44	IS	13C-1,2,3,7,8-PeCDF	100.00	5.38e+06	1.59 y	29:26	-	0.95
45	IS	13C-2,3,4,7,8-PeCDF	100.00	5.12e+06	1.55 y	30:19	-	0.90
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	3.66e+06	0.49 y	32:59	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	4.32e+06	0.51 y	33:07	-	0.98
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	4.33e+06	0.51 y	33:44	-	0.98
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	4.02e+06	0.52 y	34:42	-	0.91
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.15e+06	0.43 y	36:31	-	0.94
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	2.91e+06	0.46 y	38:17	-	0.66
52	IS	13C-OCDF	200.00	7.04e+06	0.91 y	41:15	-	0.80
53	C/Up	37Cl-2,3,7,8-TCDD	40.00	1.89e+06		26:10	-	1.17
54	RS/RT	13C-1,2,3,4-TCDD	100.00	4.05e+06	0.77 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	5.68e+06	0.82 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	4.42e+06	0.52 y	33:25	-	1.00

DB
5/14/19

Filename: 190510D2 S: 6 Acquired: 10-MAY-19 18:23:05
 Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19 Results: 190510D2
 Sample text: ST190510D2-6 1613 CS5 19C2206

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	300.00	1.49e+07	0.80 y	26:10	-	0.95
2	Unk	1,2,3,7,8-PeCDD	1500.00	6.20e+07	0.63 y	30:36	-	0.87
3	Unk	1,2,3,4,7,8-HxCDD	1500.00	6.57e+07	1.25 y	33:54	-	1.17
4	Unk	1,2,3,6,7,8-HxCDD	1500.00	6.86e+07	1.23 y	33:60	-	1.05
5	Unk	1,2,3,7,8,9-HxCDD	1500.00	7.06e+07	1.23 y	34:18	-	1.07
6	Unk	1,2,3,4,6,7,8-HpCDD	1500.00	5.88e+07	1.05 y	37:44	-	1.12
7	Unk	OCDD	3000.00	1.03e+08	0.92 y	41:01	-	1.08
8	Unk	2,3,7,8-TCDF	300.00	2.15e+07	0.81 y	25:26	-	0.99
9	Unk	1,2,3,7,8-PeCDF	1500.00	8.84e+07	1.57 y	29:27	-	0.96
10	Unk	2,3,4,7,8-PeCDF	1500.00	8.73e+07	1.58 y	30:20	-	1.01
11	Unk	1,2,3,4,7,8-HxCDF	1500.00	8.94e+07	1.21 y	33:00	-	1.31
12	Unk	1,2,3,6,7,8-HxCDF	1500.00	9.62e+07	1.21 y	33:08	-	1.21
13	Unk	2,3,4,6,7,8-HxCDF	1500.00	9.98e+07	1.20 y	33:44	-	1.24
14	Unk	1,2,3,7,8,9-HxCDF	1500.00	8.85e+07	1.20 y	34:42	-	1.16
15	Unk	1,2,3,4,6,7,8-HpCDF	1500.00	8.29e+07	1.00 y	36:32	-	1.16
16	Unk	1,2,3,4,7,8,9-HpCDF	1500.00	7.36e+07	1.03 y	38:18	-	1.35
17	Unk	OCDF	3000.00	1.39e+08	0.91 y	41:15	-	1.10
36	IS	13C-2,3,7,8-TCDD	100.00	5.24e+06	0.77 y	26:09	-	1.11
37	IS	13C-1,2,3,7,8-PeCDD	100.00	4.77e+06	0.60 y	30:35	-	1.01
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.73e+06	1.27 y	33:53	-	0.67
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	4.34e+06	1.27 y	33:59	-	0.78
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	4.39e+06	1.28 y	34:17	-	0.79
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.51e+06	1.06 y	37:43	-	0.63
42	IS	13C-OCDD	200.00	6.38e+06	0.94 y	41:01	-	0.57
43	IS	13C-2,3,7,8-TCDF	100.00	7.23e+06	0.83 y	25:25	-	1.10
44	IS	13C-1,2,3,7,8-PeCDF	100.00	6.13e+06	1.59 y	29:26	-	0.93
45	IS	13C-2,3,4,7,8-PeCDF	100.00	5.74e+06	1.61 y	30:19	-	0.87
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	4.54e+06	0.53 y	32:59	-	0.82
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	5.28e+06	0.53 y	33:07	-	0.95
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	5.37e+06	0.52 y	33:43	-	0.97
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.09e+06	0.52 y	34:41	-	0.92
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.78e+06	0.44 y	36:30	-	0.86
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.63e+06	0.43 y	38:17	-	0.65
52	IS	13C-OCDF	200.00	8.43e+06	0.90 y	41:15	-	0.76
53	C/Up	37Cl-2,3,7,8-TCDD	199.80	1.16e+07		26:10	-	1.22
54	RS/RT	13C-1,2,3,4-TCDD	100.00	4.74e+06	0.82 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	6.56e+06	0.84 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	5.55e+06	0.52 y	33:25	-	1.00

DB
5/14/19

Run: 190510D2

Analyte:

Cal: 1613VG7-5-10-19

Inst. ID. VG-7

Data filename: 190510D2

		Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6
		0.25	0.50	2.0	10	40	300
RRT Limits							
Name	Lower Upper	RRT#1	RRT#2	RRT#3	RRT#4	RRT#5	RRT#6
2,3,7,8-TCDD	0.999 -1.002	1.000	1.000	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDD	0.999 -1.002	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,4,7,8-HxCDD	0.999 -1.001	1.000	1.000	1.000	1.000	1.001	1.001
1,2,3,6,7,8-HxCDD	0.998 -1.004	1.000	1.000	1.000	1.000	1.001	1.000
1,2,3,7,8,9-HxCDD	0.998 -1.004	1.000	1.000	1.001	1.000	1.001	1.000
1,2,3,4,6,7,8-HpCDD	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDD	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000
2,3,7,8-TCDF	0.999 -1.003	1.000	1.000	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDF	0.999 -1.002	1.000	1.000	1.000	1.001	1.000	1.000
2,3,4,7,8-PeCDF	0.999 -1.002	1.000	1.000	1.000	1.001	1.000	1.001
1,2,3,4,7,8-HxCDF	0.999 -1.001	1.000	1.001	1.000	1.000	1.000	1.000
1,2,3,6,7,8-HxCDF	0.997 -1.005	1.000	1.000	1.000	1.000	1.000	1.001
2,3,4,6,7,8-HxCDF	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.001
1,2,3,7,8,9-HxCDF	0.999 -1.001	1.000	1.001	1.001	1.001	1.000	1.001
1,2,3,4,6,7,8-HpCDF	0.999 -1.001	1.000	1.000	1.000	1.000	1.001	1.001
1,2,3,4,7,8,9-HpCDF	0.999 -1.001	1.000	1.000	1.000	1.001	1.000	1.000
OCDF	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000
13C-2,3,7,8-TCDD	0.976 -1.043	1.023	1.023	1.022	1.022	1.022	1.022
13C-1,2,3,7,8-PeCDD	1.000 -1.567	1.196	1.196	1.196	1.196	1.196	1.196
13C-1,2,3,4,7,8-HxCDD	1.002 -1.026	1.014	1.014	1.014	1.014	1.014	1.014
13C-1,2,3,6,7,8-HxCDD	1.007 -1.029	1.017	1.017	1.017	1.017	1.017	1.017
13C-1,2,3,7,8,9-HxCDD	1.014 -1.038	1.027	1.027	1.027	1.027	1.026	1.026
13C-1,2,3,4,6,7,8-HpCDD	1.117 -1.141	1.130	1.129	1.129	1.129	1.129	1.129
13C-OCDD	1.085 -1.365	1.228	1.228	1.228	1.228	1.228	1.227
13C-2,3,7,8-TCDF	0.923 -1.103	0.993	0.993	0.993	0.993	0.993	0.993
13C-1,2,3,7,8-PeCDF	1.000 -1.425	1.151	1.151	1.151	1.151	1.151	1.150
13C-2,3,4,7,8-PeCDF	1.011 -1.526	1.186	1.186	1.186	1.185	1.185	1.185
13C-1,2,3,4,7,8-HxCDF	0.975 -1.001	0.987	0.987	0.988	0.987	0.987	0.987
13C-1,2,3,6,7,8-HxCDF	0.979 -1.005	0.991	0.991	0.991	0.991	0.991	0.991
13C-2,3,4,6,7,8-HxCDF	1.001 -1.020	1.009	1.009	1.010	1.009	1.010	1.009
13C-1,2,3,7,8,9-HxCDF	1.002 -1.072	1.039	1.039	1.039	1.039	1.039	1.038
13C-1,2,3,4,6,7,8-HpCDF	1.069 -1.111	1.093	1.093	1.093	1.093	1.093	1.093
13C-1,2,3,4,7,8,9-HpCDF	1.098 -1.192	1.146	1.146	1.146	1.146	1.146	1.146
13C-OCDF	1.091 -1.371	1.235	1.235	1.235	1.235	1.235	1.234
37Cl-2,3,7,8-TCDD	0.989 -1.052	1.023	1.023	1.023	1.023	1.023	1.023
13C-1,2,3,4-TCDD	0.000 -0.000	*	*	*	*	*	*
13C-1,2,3,4-TCDF	0.000 -0.000	*	*	*	*	*	*
13C-1,2,3,4,6,9-HxCDF	0.000 -0.000	*	*	*	*	*	*

DB

5/14/19

FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 5-10-19

RT Window Data Filename: 190510D2 S#4 Analysis Date: 10-MAY-19 Time: 16:47:52

ZB-5MS IS Data Filename: 190510D2 S#4 Analysis Date: 10-MAY-19 Time: 16:47:52

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:50	1,3,6,8-TCDF (F)	20:45
1,2,8,9-TCDD (L)	27:01	1,2,8,9-TCDF (L)	27:11
1,2,4,7,9-PeCDD (F)	28:35	1,3,4,6,8-PeCDF (F)	27:05
1,2,3,8,9-PeCDD (L)	30:58	1,2,3,8,9-PeCDF (L)	31:13
1,2,4,6,7,9-HxCDD (F)	32:21	1,2,3,4,6,8-HxCDF (F)	31:49
1,2,3,7,8,9-HxCDD (L)	34:19	1,2,3,7,8,9-HxCDF (L)	34:44
1,2,3,4,6,7,9-HpCDD (F)	36:54	1,2,3,4,6,7,8-HpCDF (F)	36:32
1,2,3,4,6,7,8-HpCDD (L)	37:45	1,2,3,4,7,8,9-HpCDF (L)	38:19

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

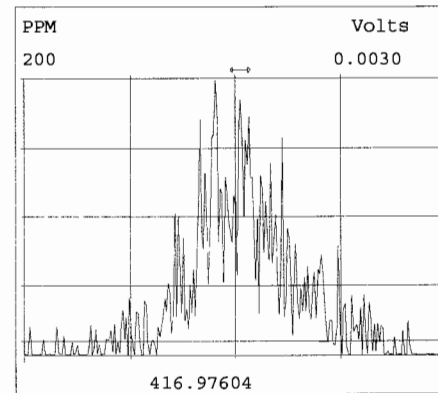
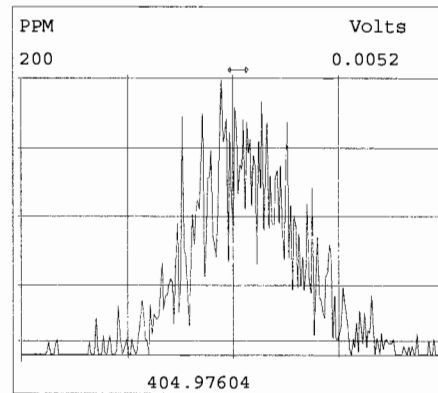
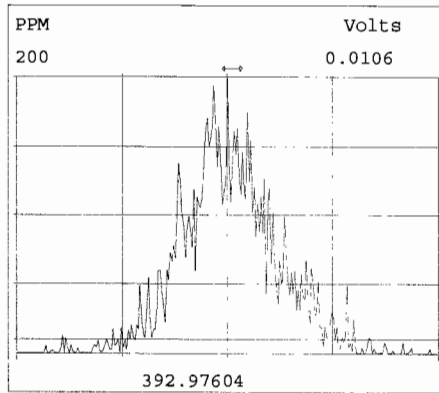
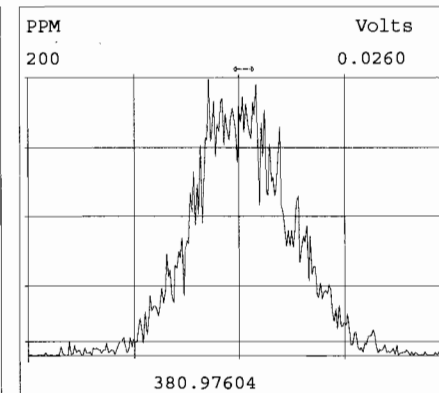
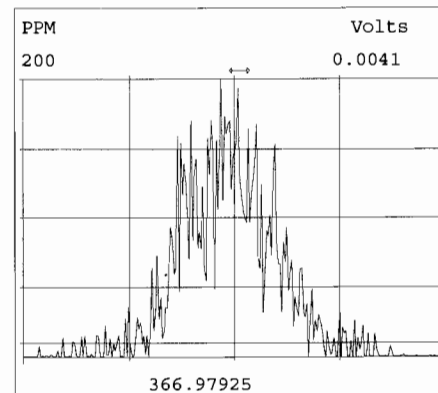
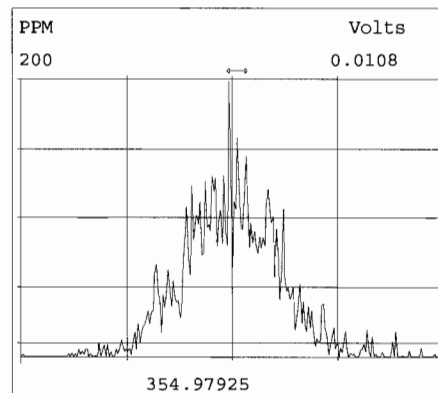
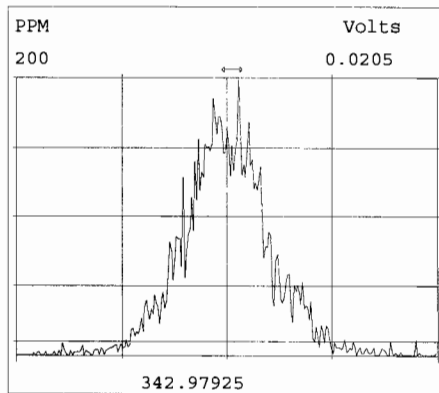
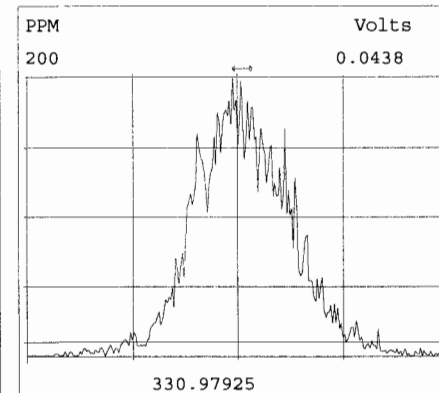
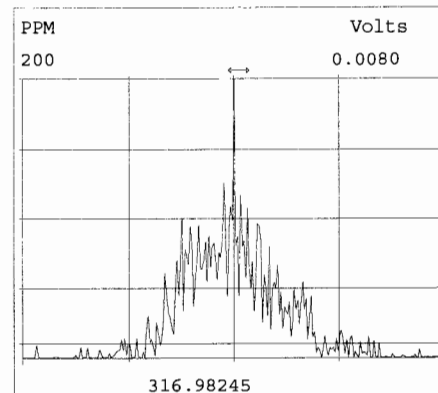
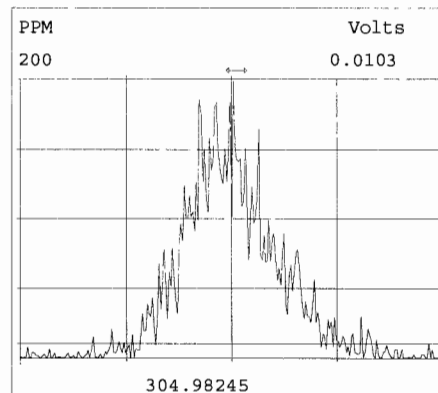
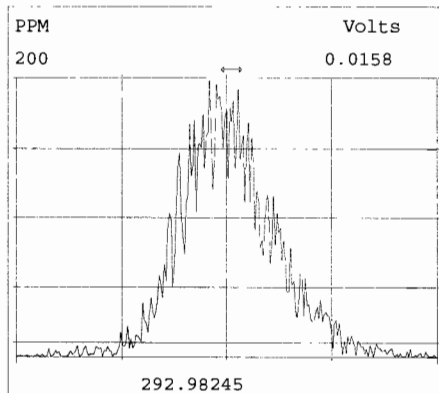
<25%

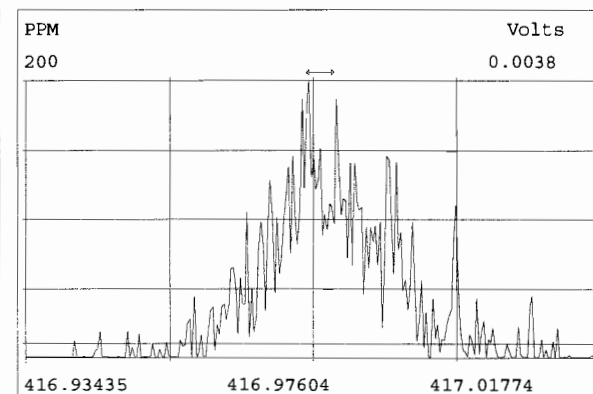
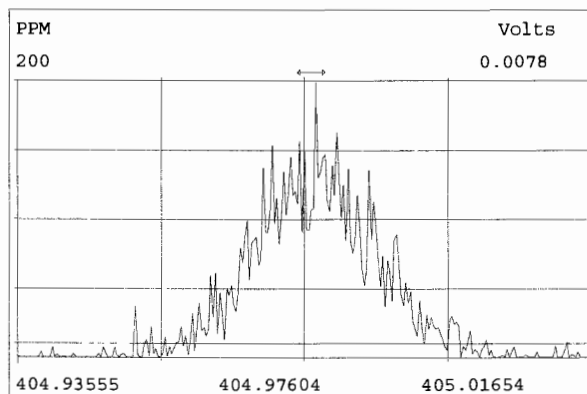
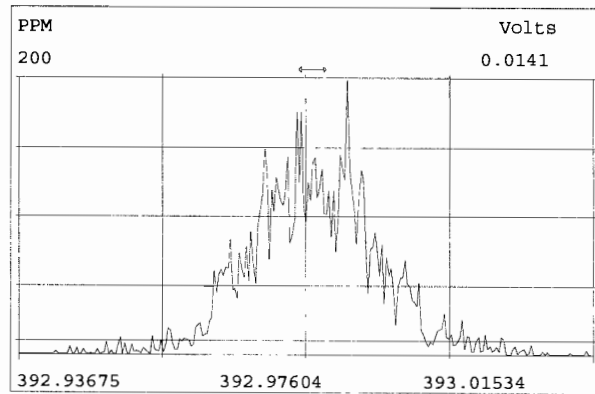
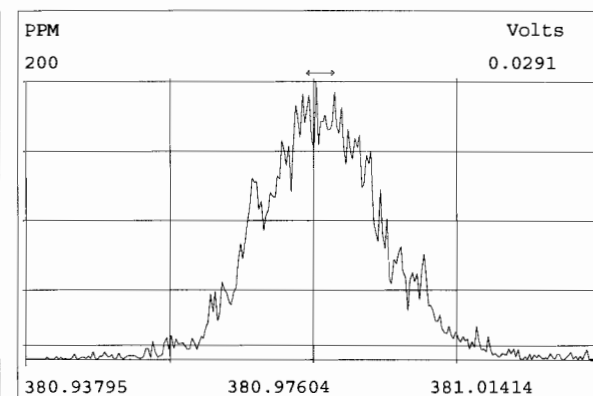
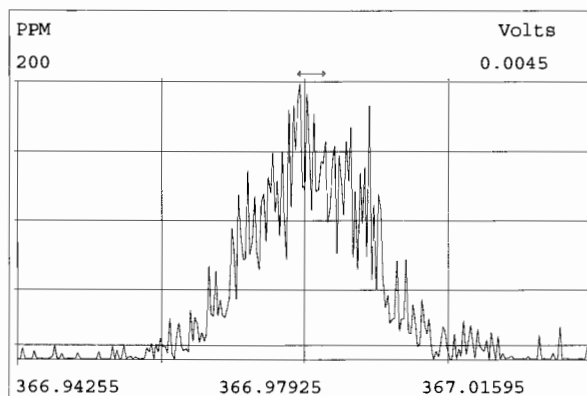
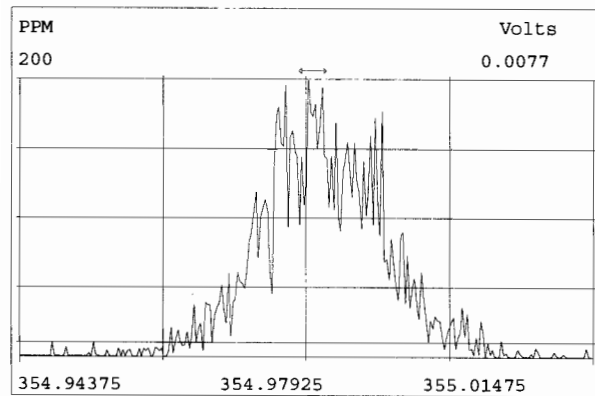
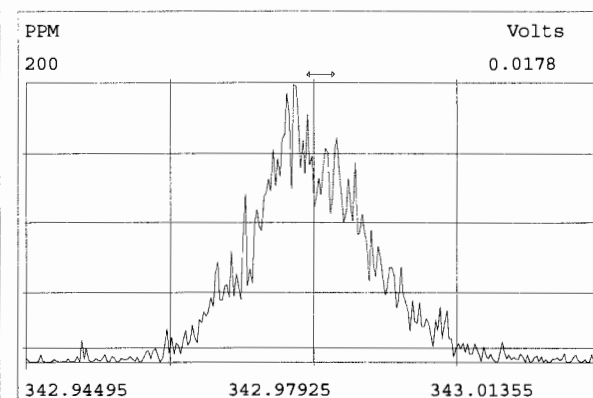
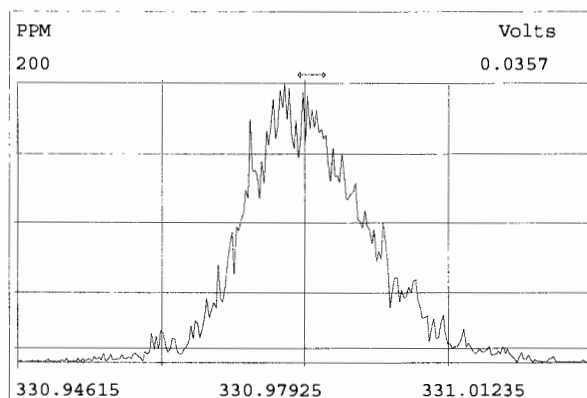
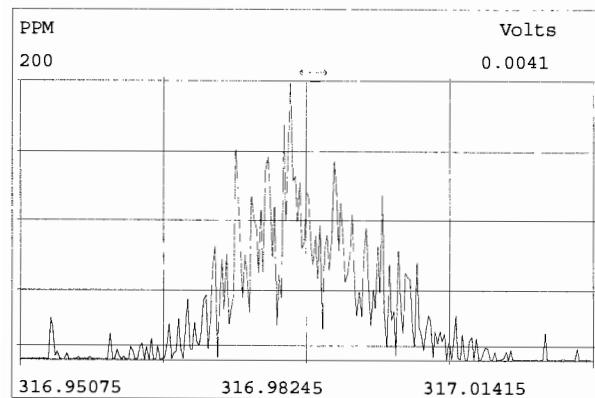
(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

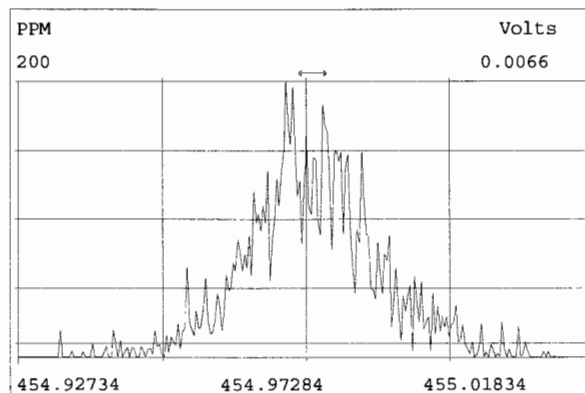
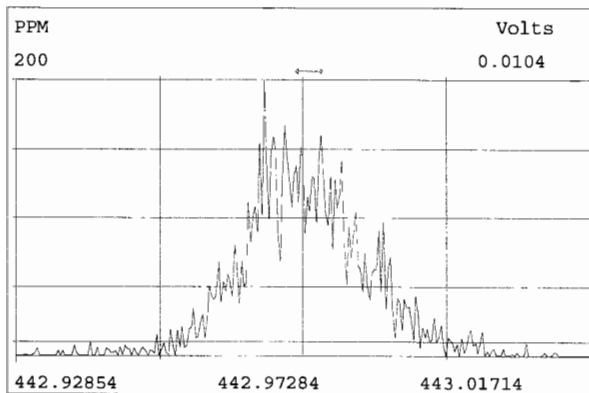
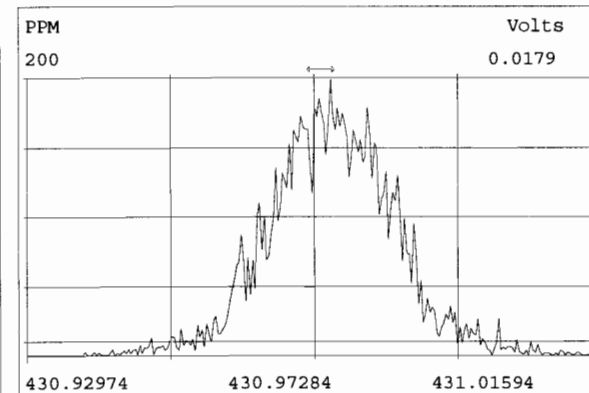
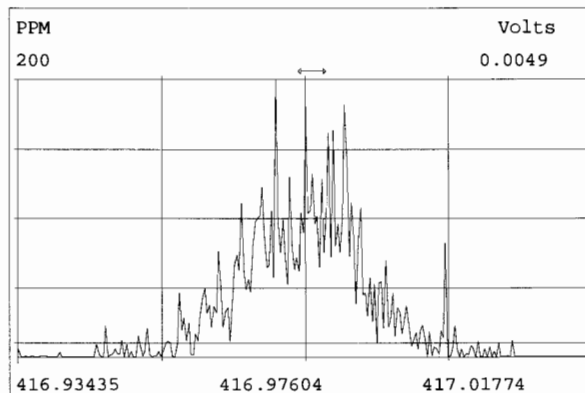
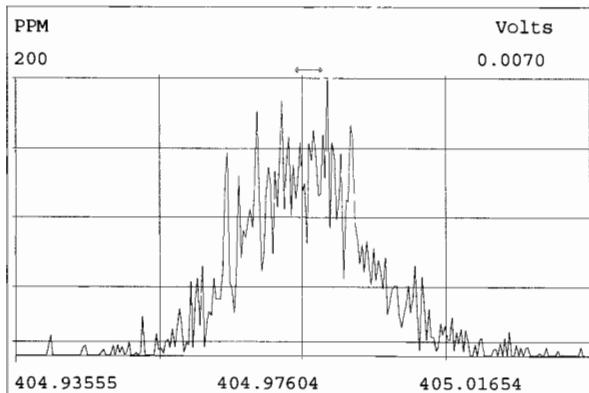
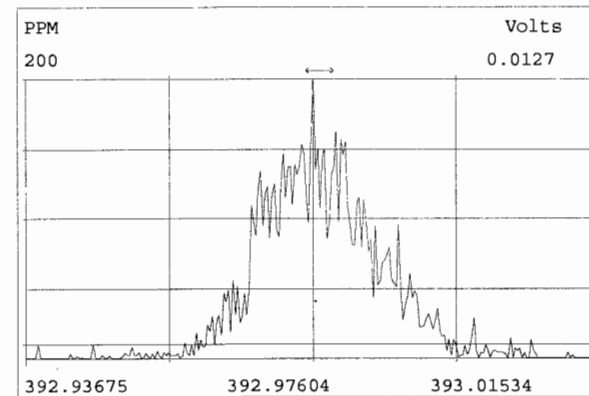
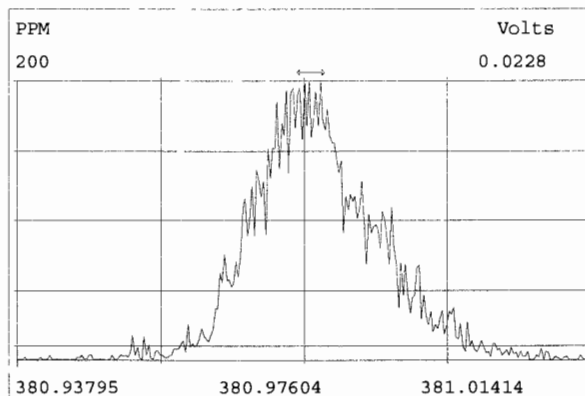
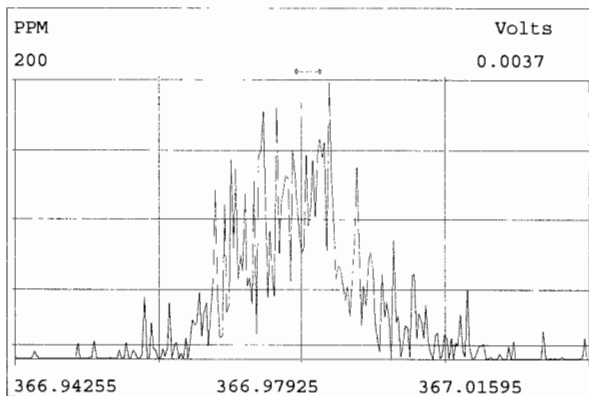
Analyst: DBDate: 5/13/19

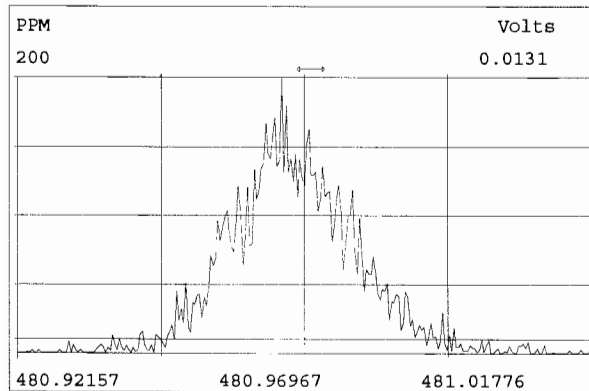
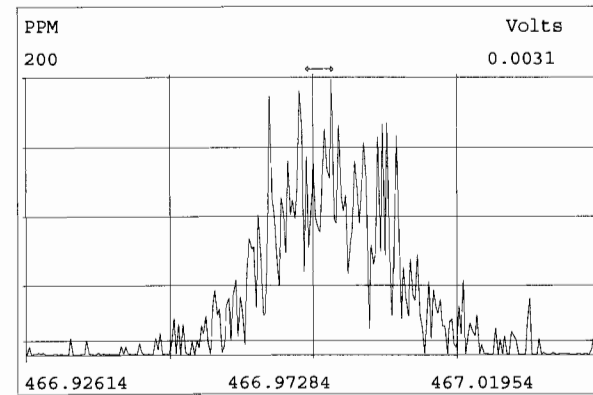
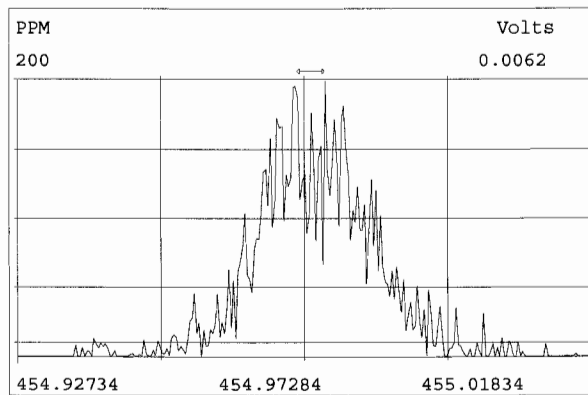
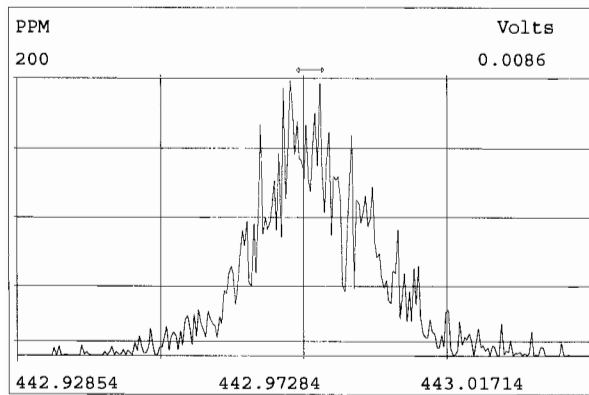
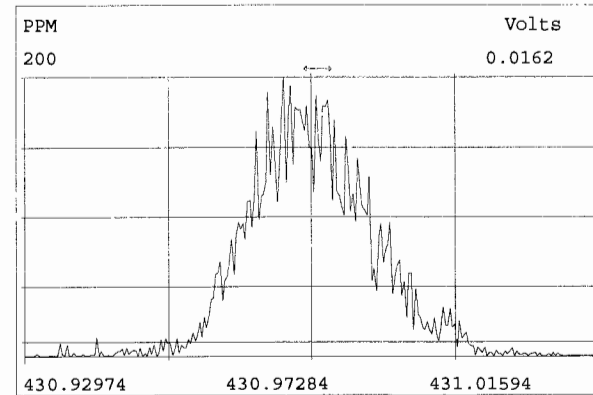
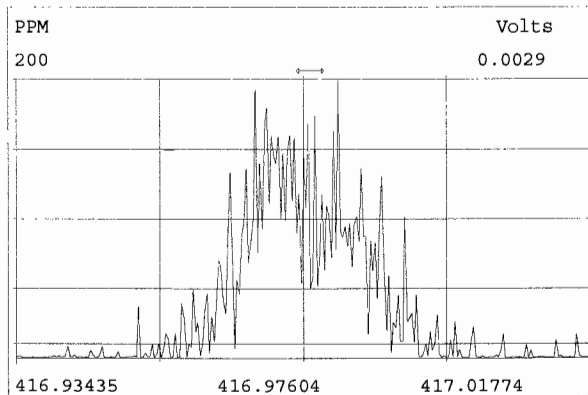
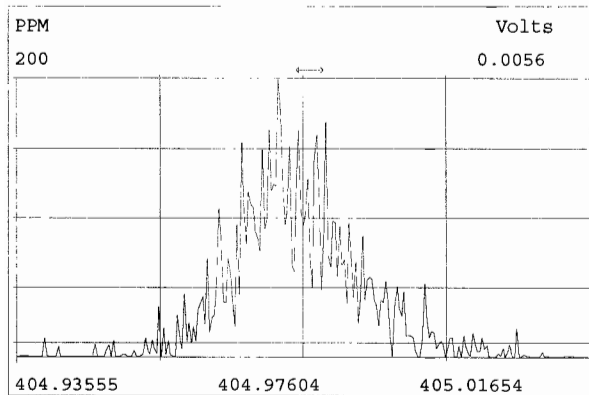
Vista Analytical Laboratory - Injection Log Run file: 190510D2 Instrument ID: VG-7 GC Column ID: ZB-SMS

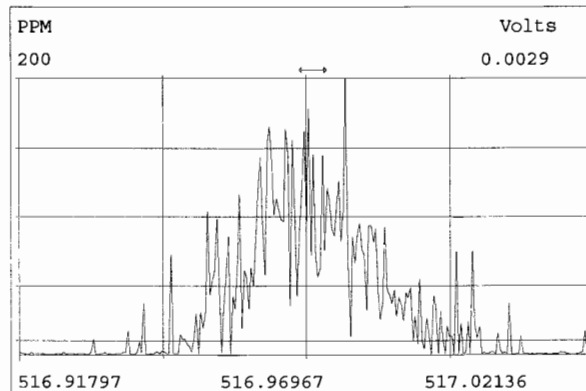
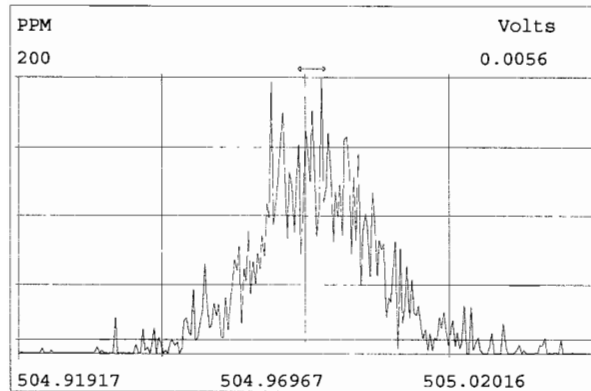
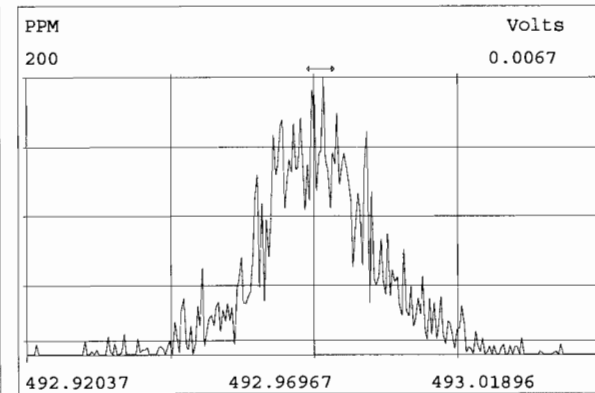
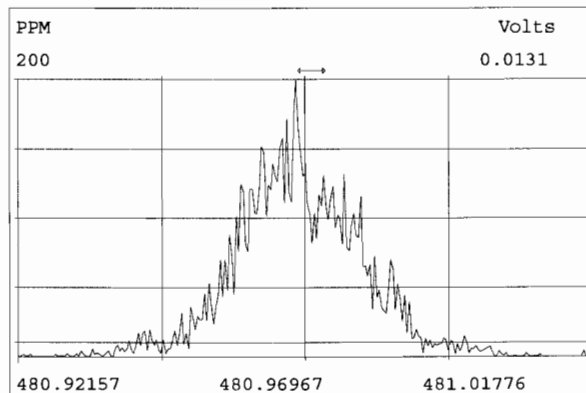
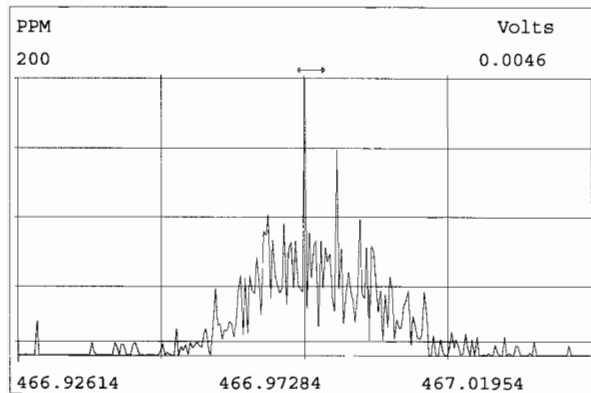
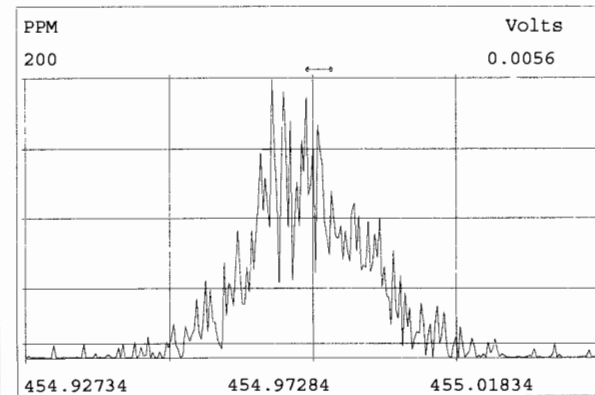
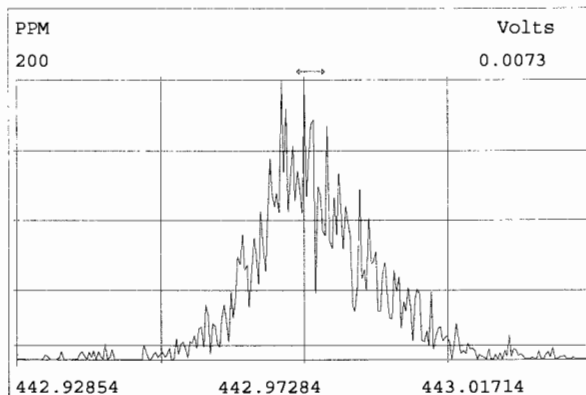
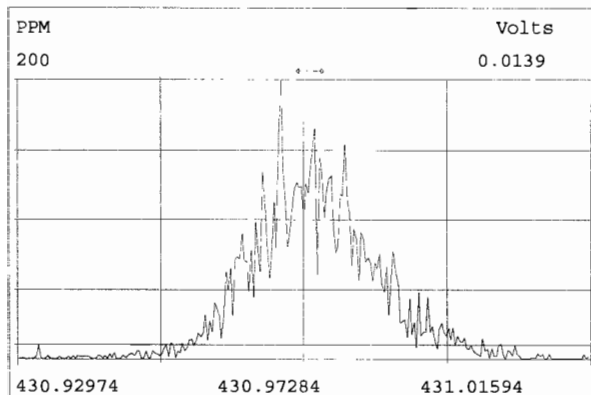
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190510D2	1	ST190510D2-1	DB	10-MAY-19	14:24:45	ST190510D2-4	NA
190510D2	2	ST190510D2-2	DB	10-MAY-19	15:12:30	ST190510D2-4	NA
190510D2	3	ST190510D2-3	DB	10-MAY-19	16:00:06	ST190510D2-4	NA
190510D2	4	ST190510D2-4	DB	10-MAY-19	16:47:52	ST190510D2-4	ST190510D2-7
190510D2	5	ST190510D2-5	DB	10-MAY-19	17:35:29	ST190510D2-4	NA
190510D2	6	ST190510D2-6	DB	10-MAY-19	18:23:05	ST190510D2-4	NA
190510D2	7	SOLVENT BLANK	DB	10-MAY-19	19:10:42	NA	NA
190510D2	8	SS190510D2-1	DB	10-MAY-19	19:58:17	ST190510D2-4	NA
190510D2	9	B9E0067-BS1	DB	10-MAY-19	20:45:54	ST190510D2-4	ST190510D2-7
190510D2	10	SOLVENT BLANK	DB	10-MAY-19	21:33:30	NA	NA
190510D2	11	B9E0067-BLK1	DB	10-MAY-19	22:21:10	ST190510D2-4	ST190510D2-7
190510D2	12	1900874-01	DB	10-MAY-19	23:08:45	ST190510D2-4	ST190510D2-7
190510D2	13	1900832-01	DB	10-MAY-19	23:56:25	ST190510D2-4	NA
190510D2	14	1901011-01	DB	11-MAY-19	00:44:00	ST190510D2-4	NA
190510D2	15	1901009-01	DB	11-MAY-19	01:31:38	ST190510D2-4	NA
190510D2	16	1901010-01	DB	11-MAY-19	02:19:20	ST190510D2-4	NA
190510D2	17	SOLVENT BLANK	DB	11-MAY-19	03:06:55	NA	NA
190510D2	18	ST190510D2-7	DB	11-MAY-19	03:54:32	ST190510D2-4	ST190510D2-7



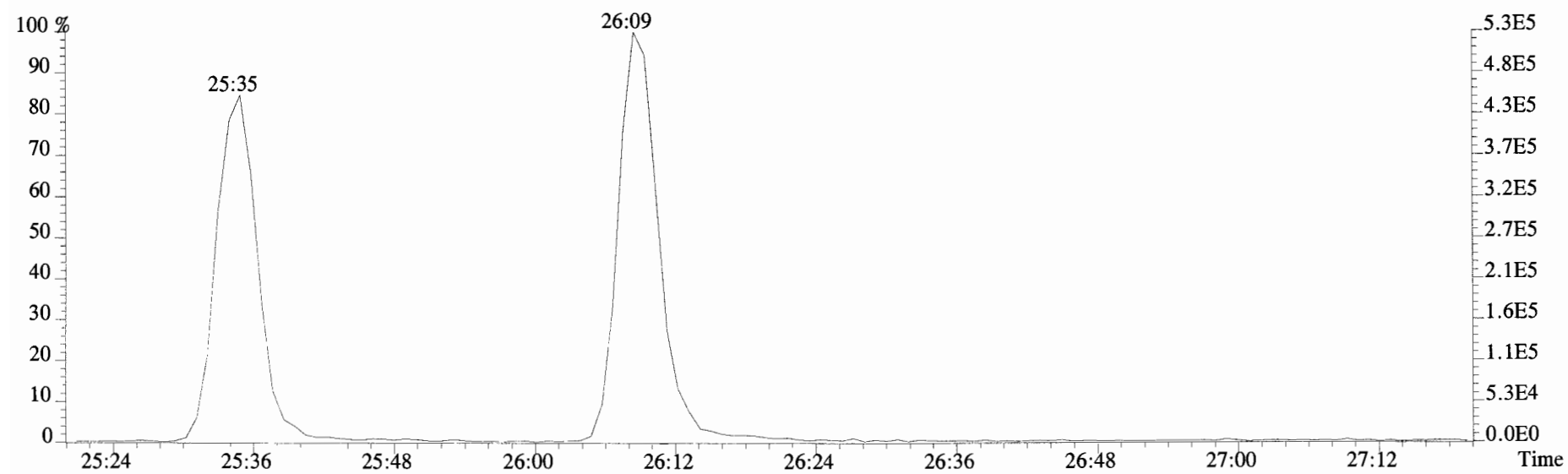
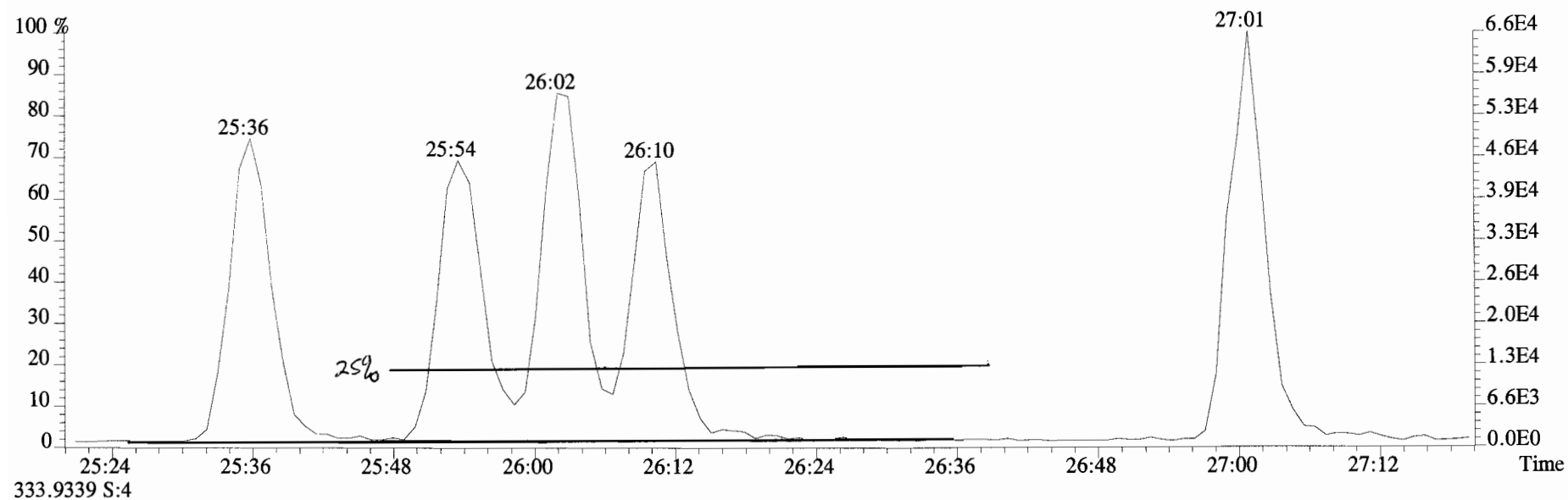




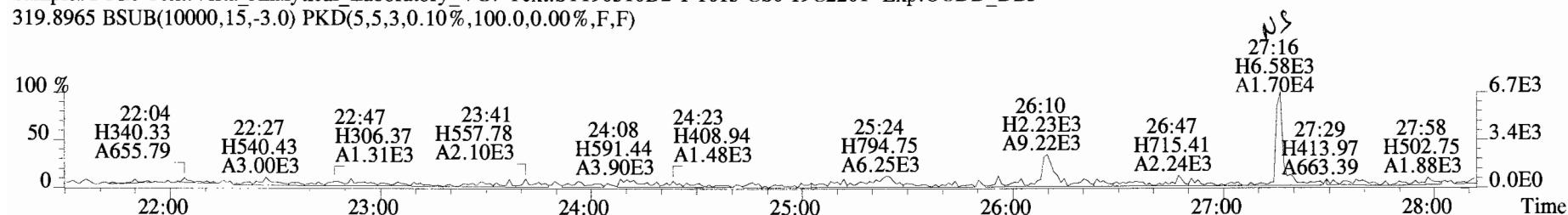




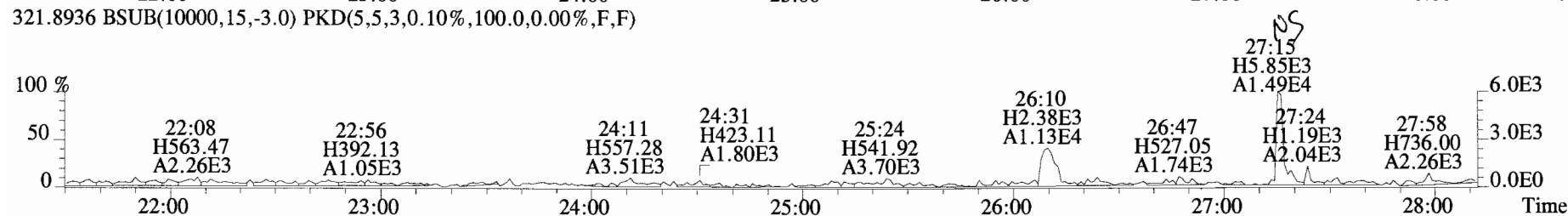
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936 S:4



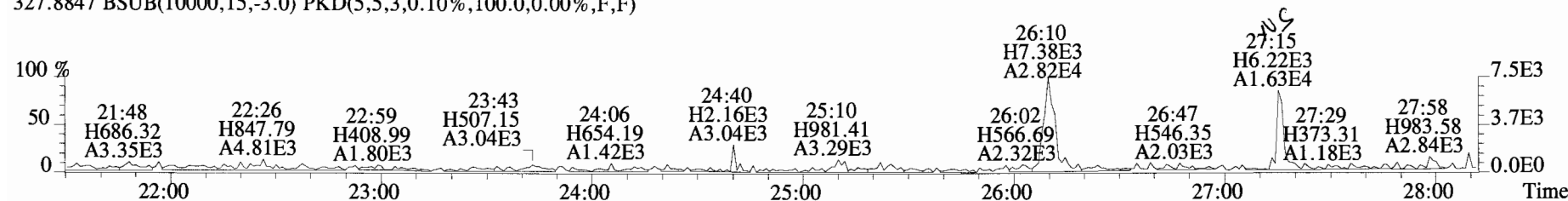
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



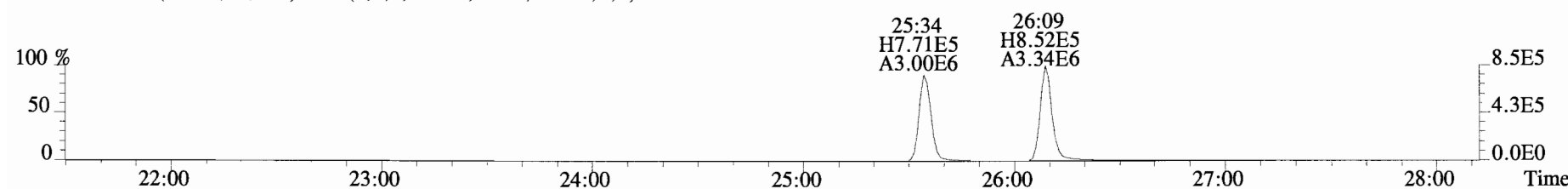
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



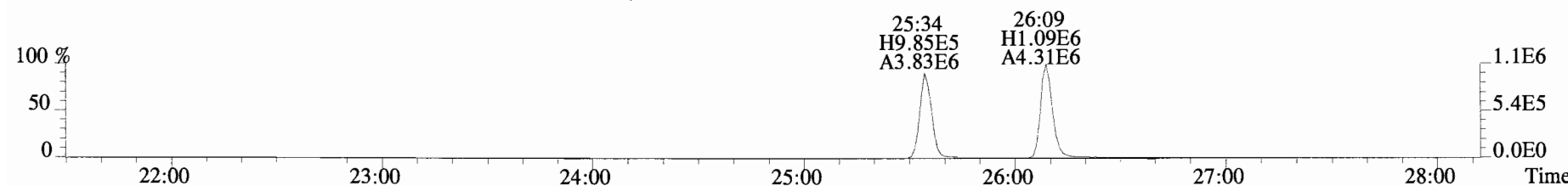
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



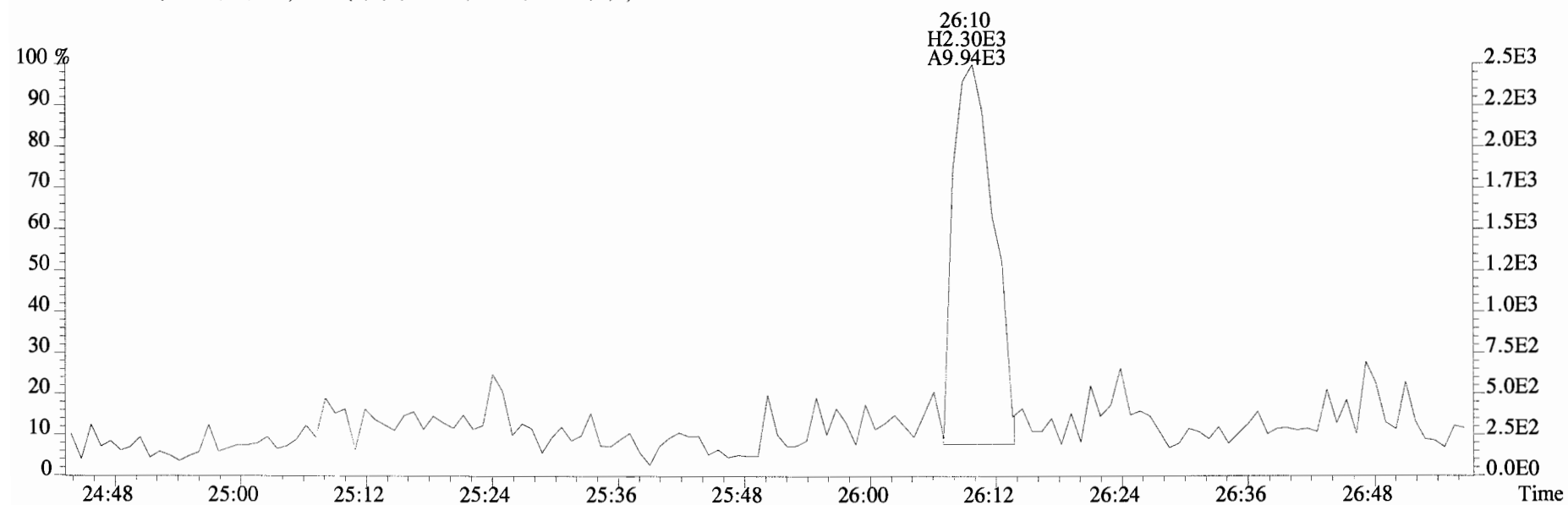
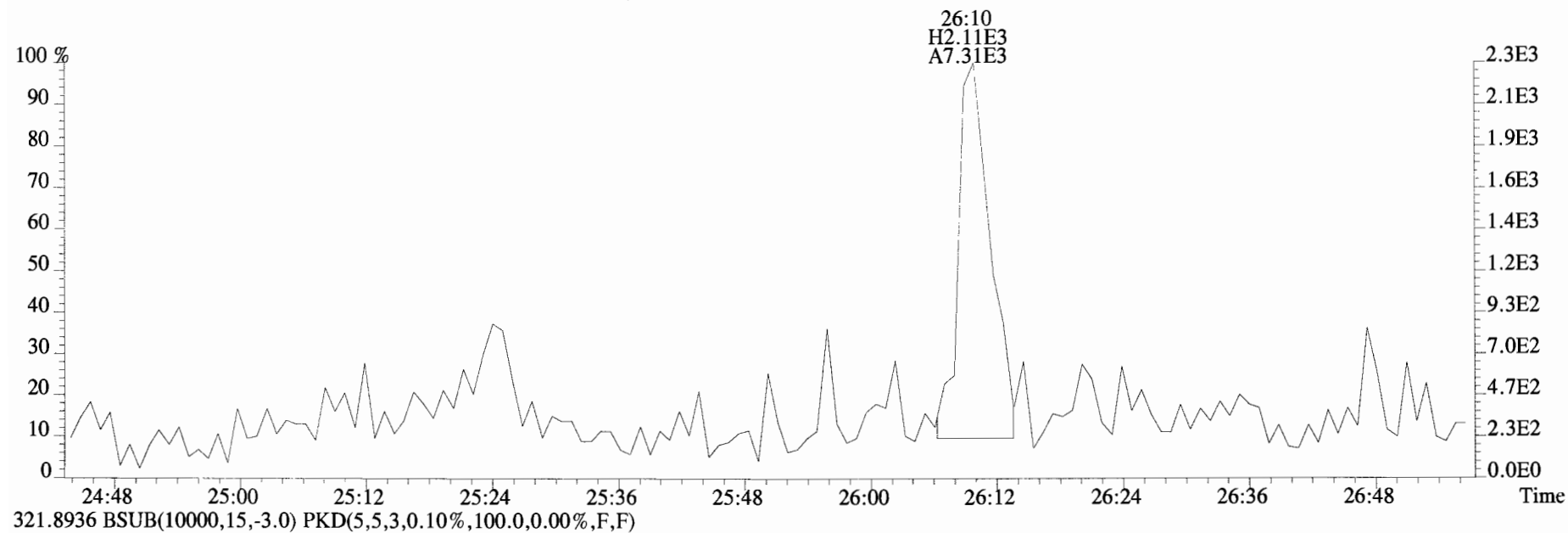
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



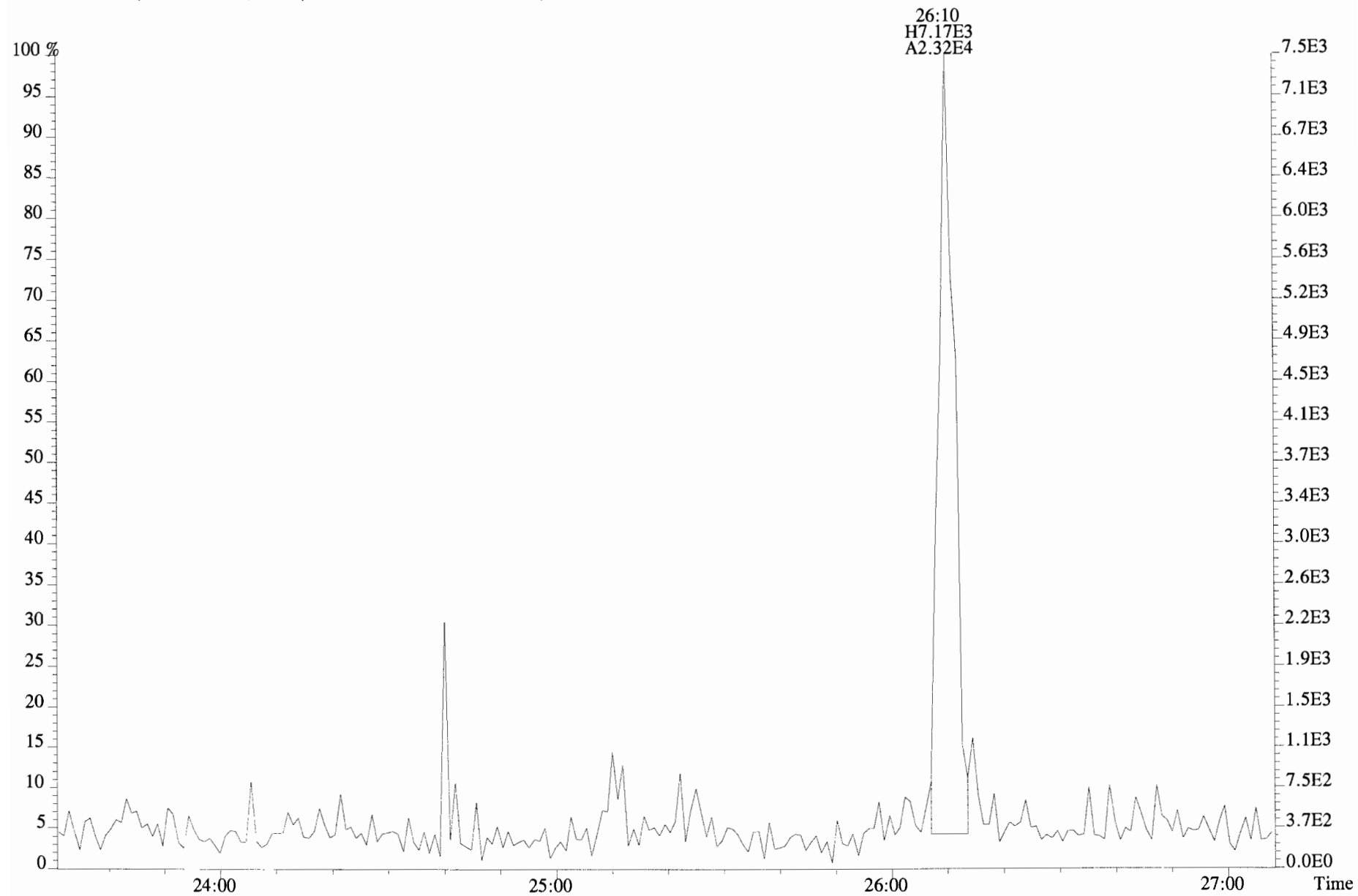
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



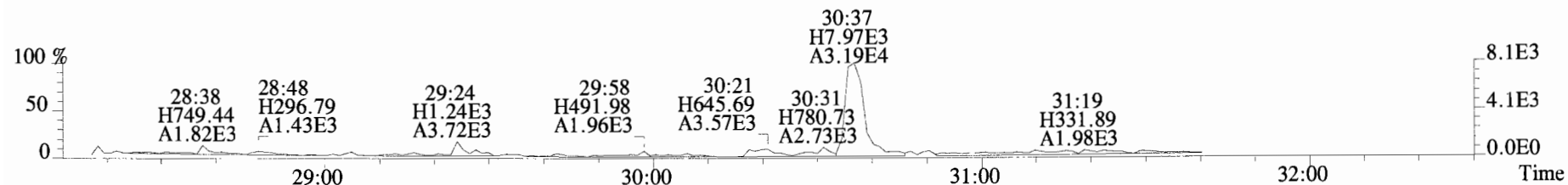
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



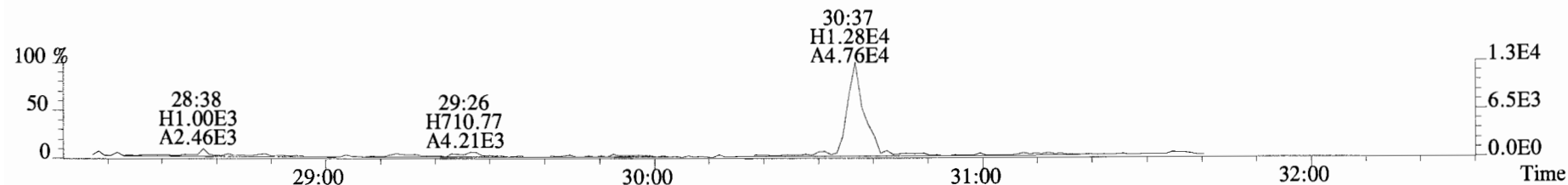
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



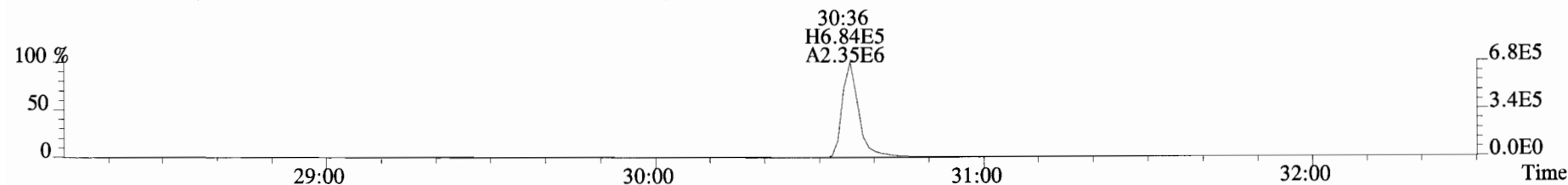
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



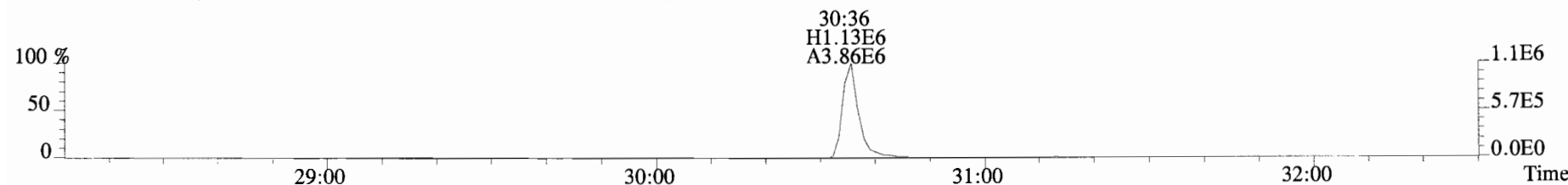
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



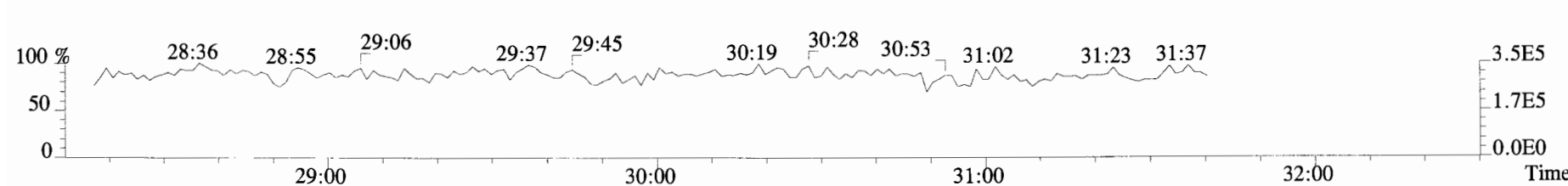
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



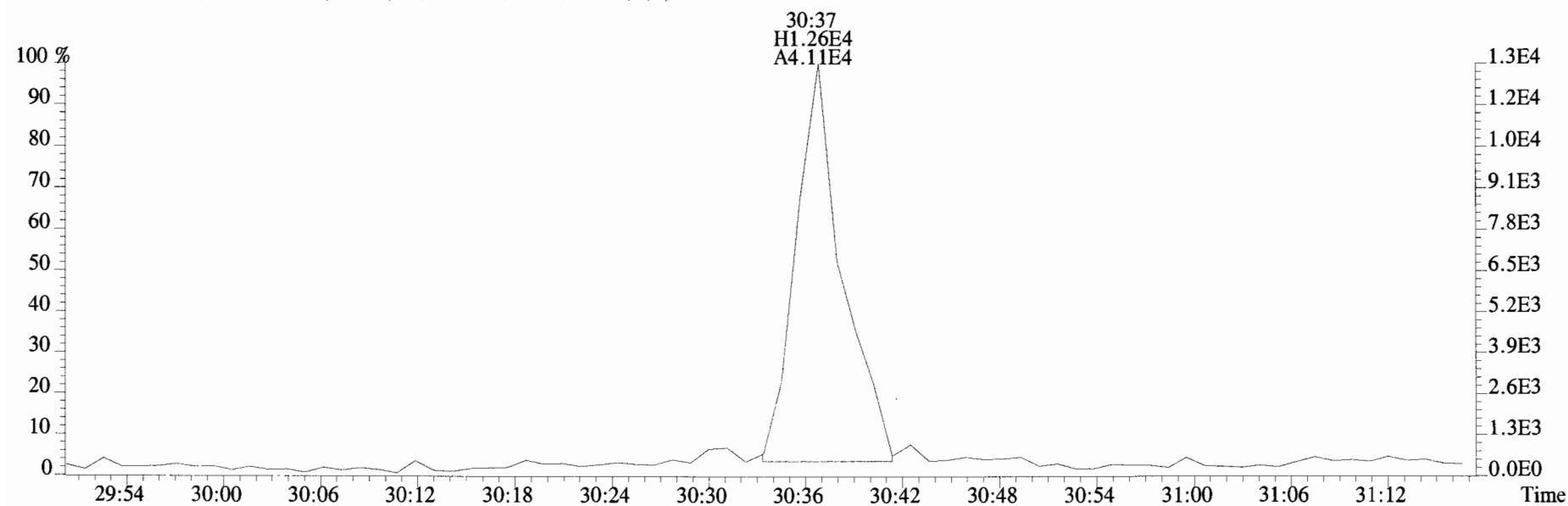
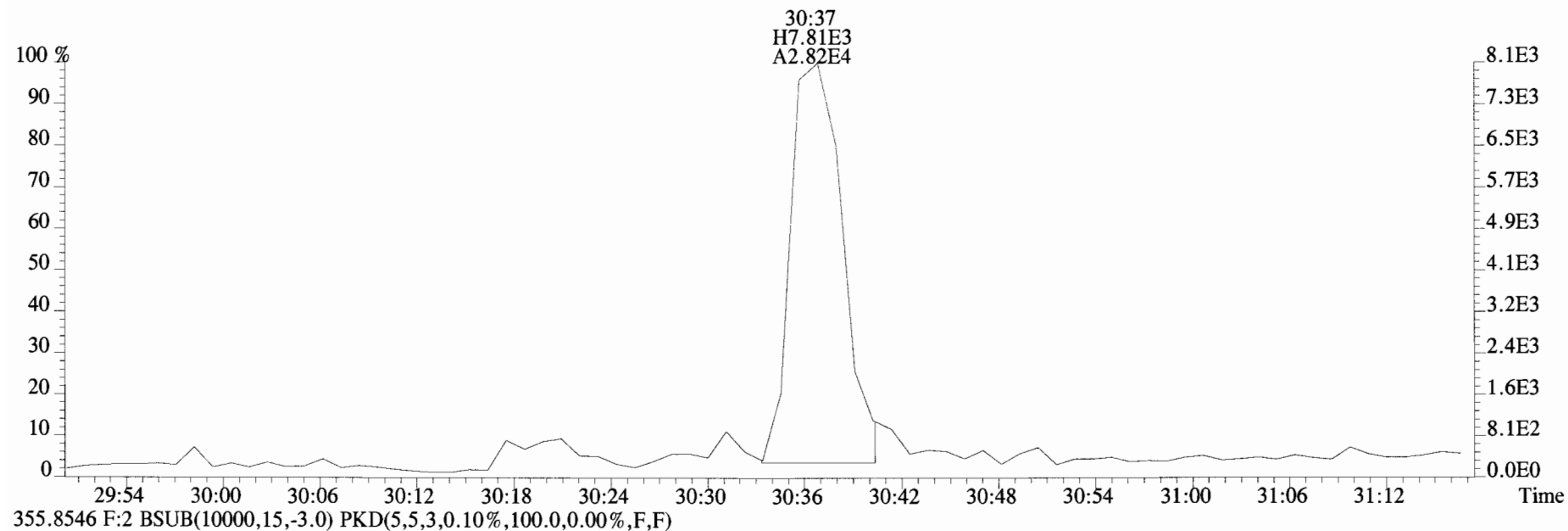
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



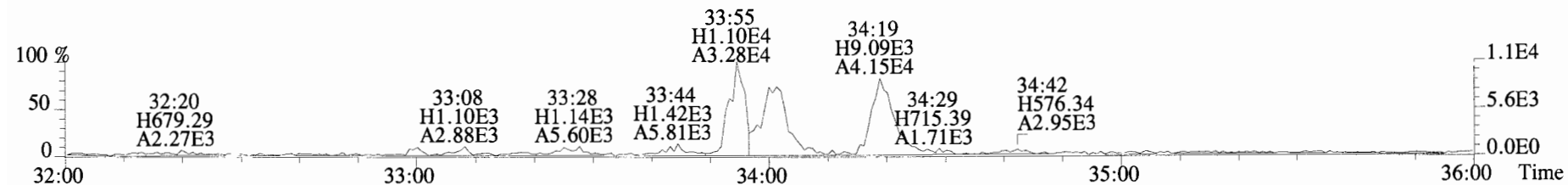
366.9792 F:2



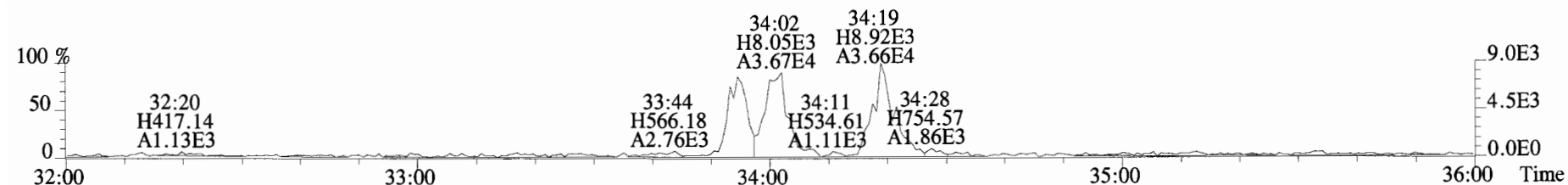
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



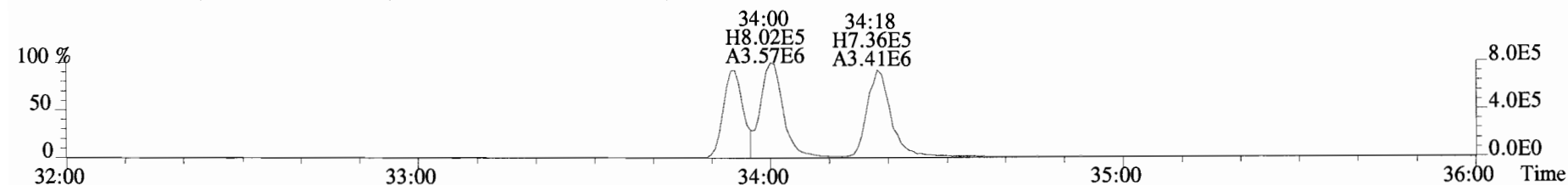
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



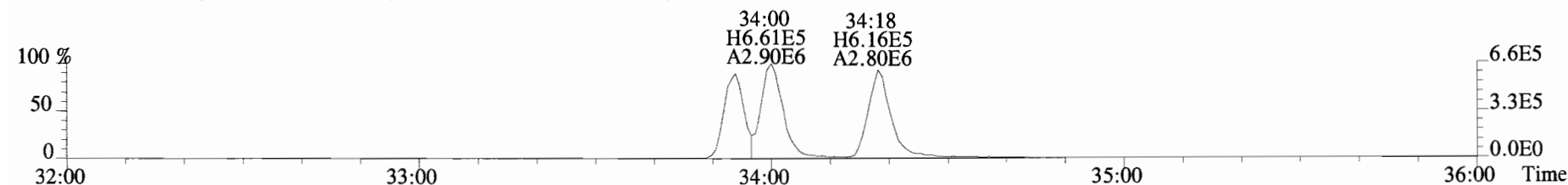
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



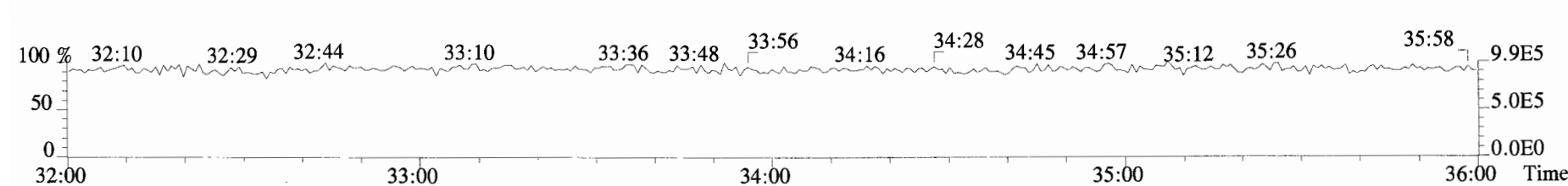
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



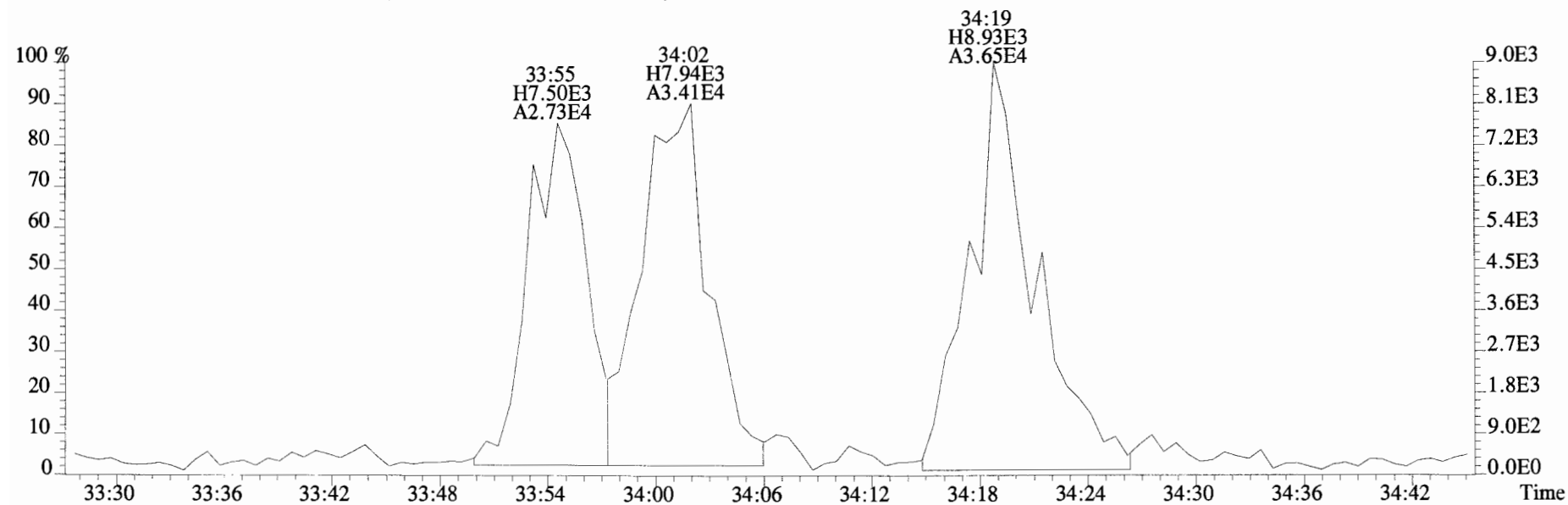
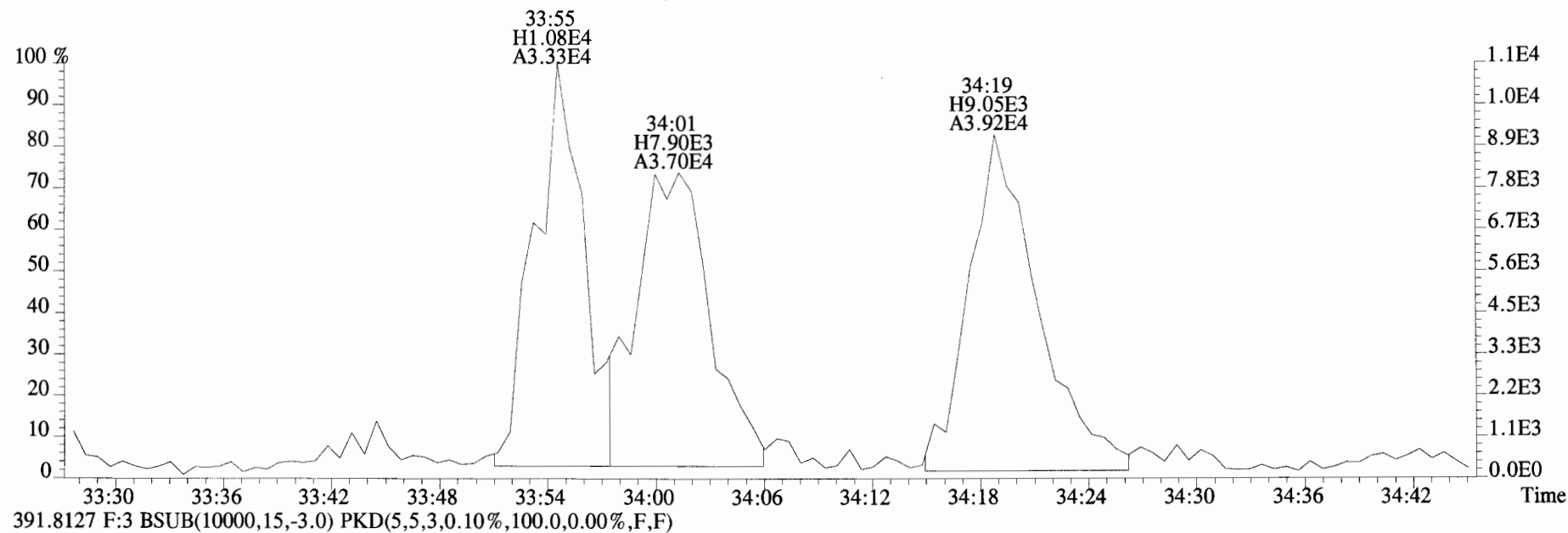
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



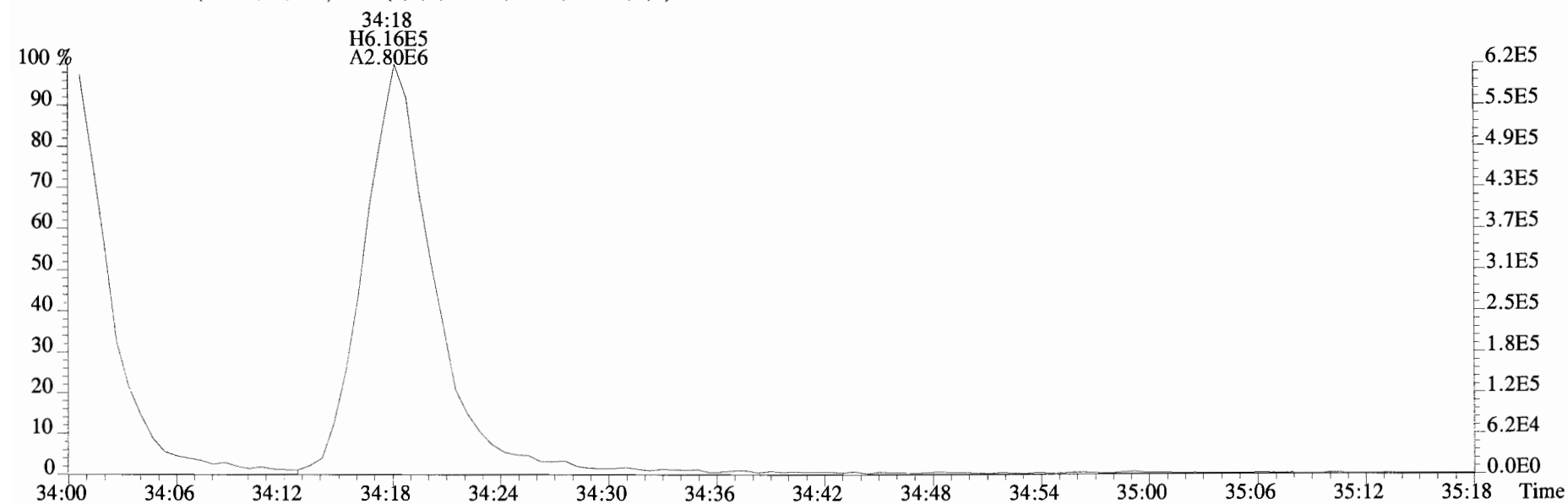
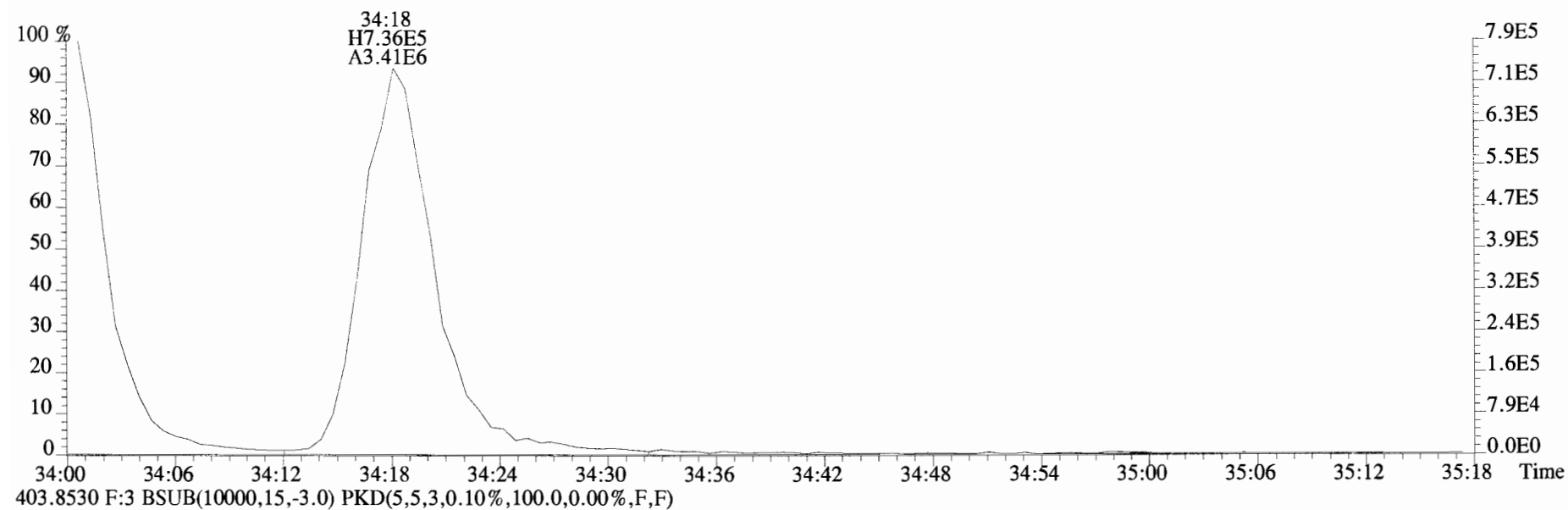
392.9760 F:3



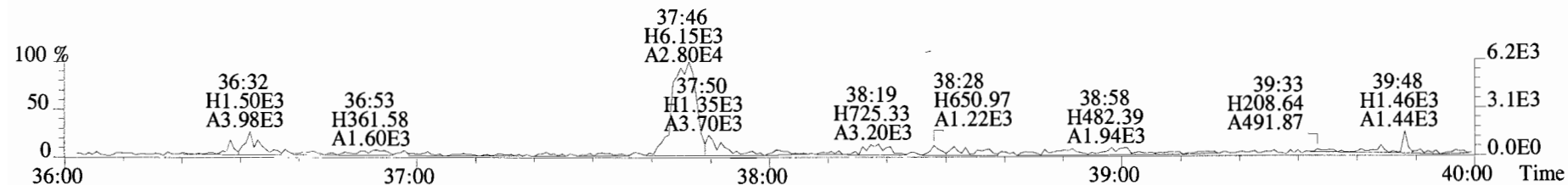
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



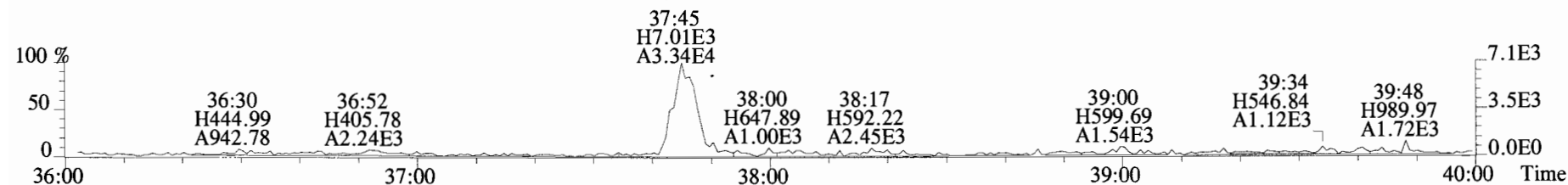
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



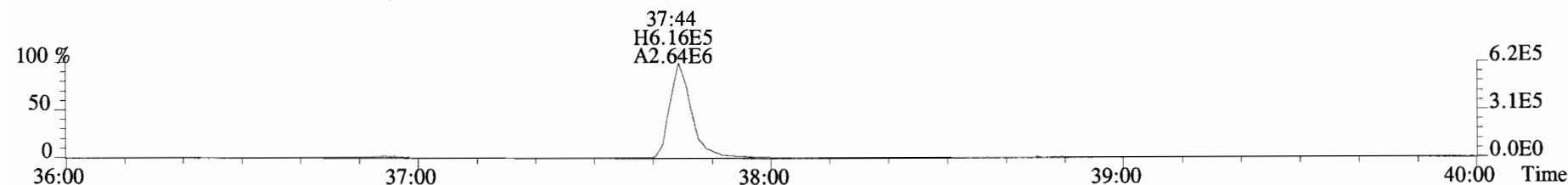
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



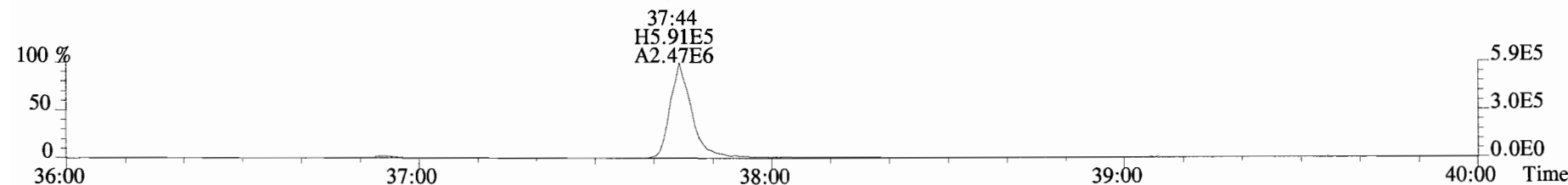
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



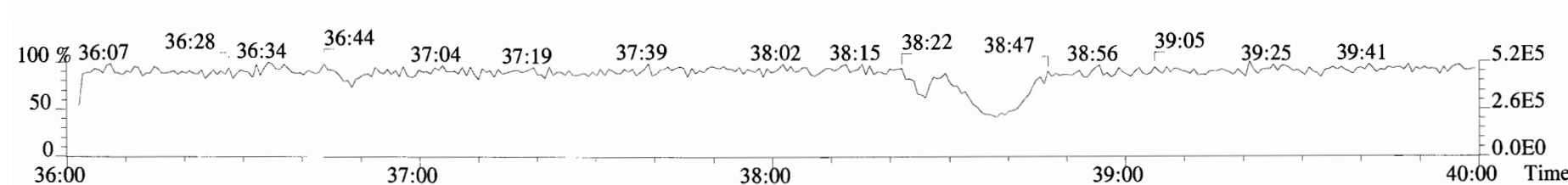
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



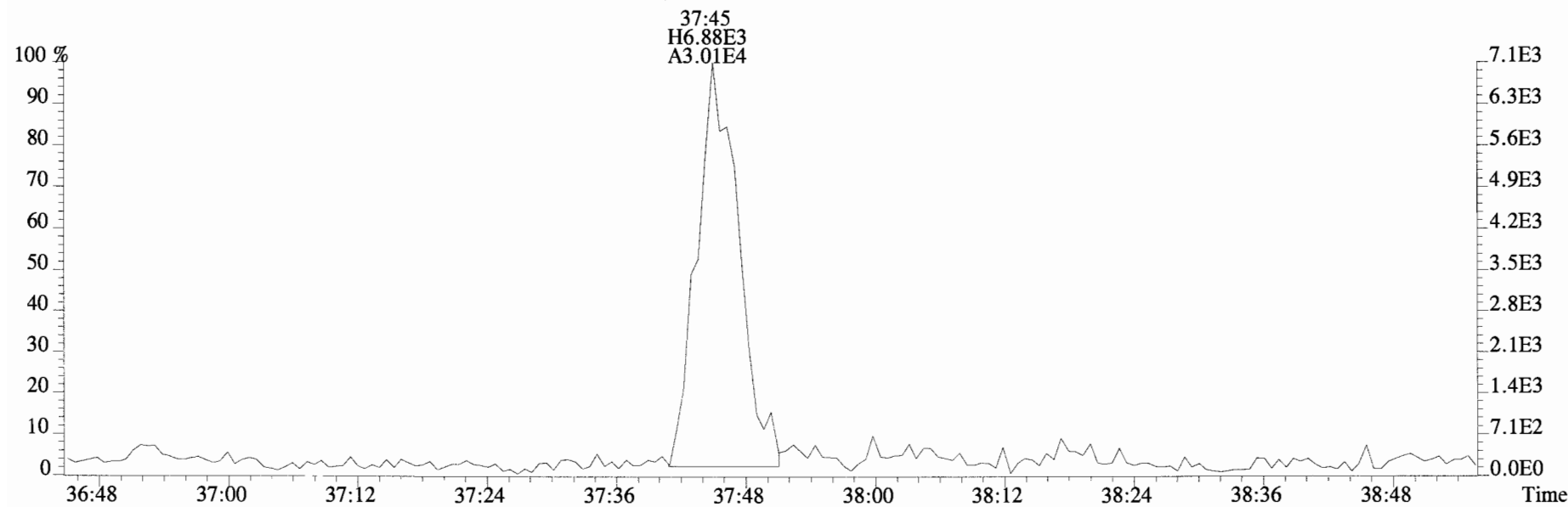
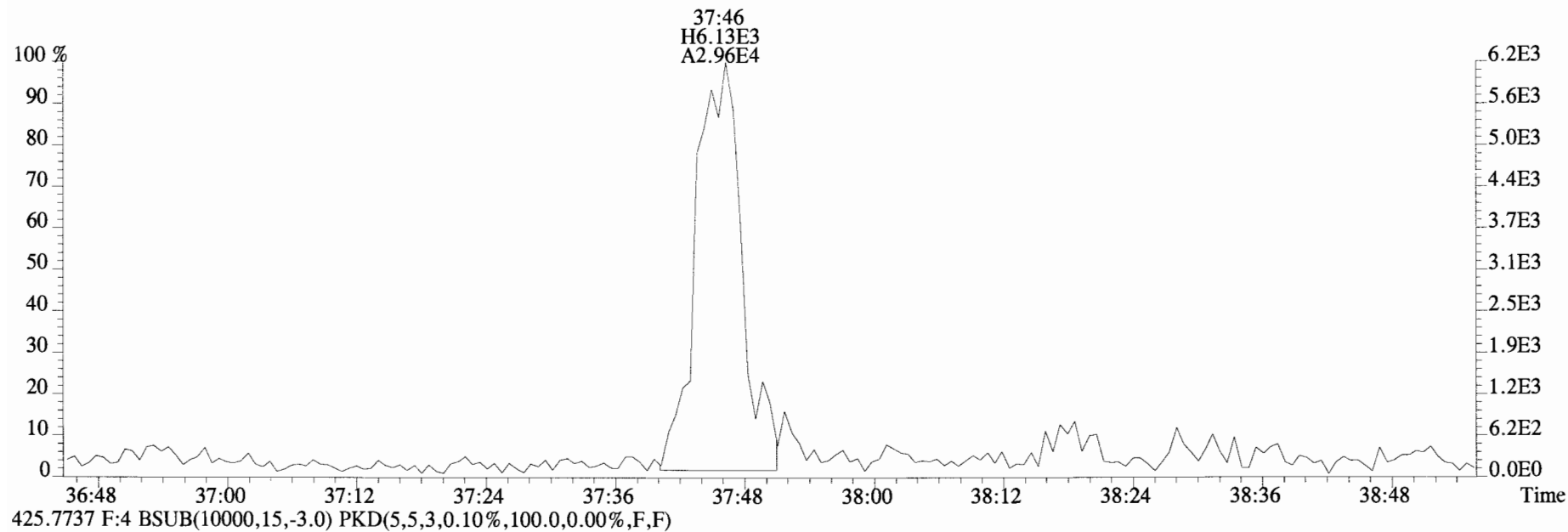
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



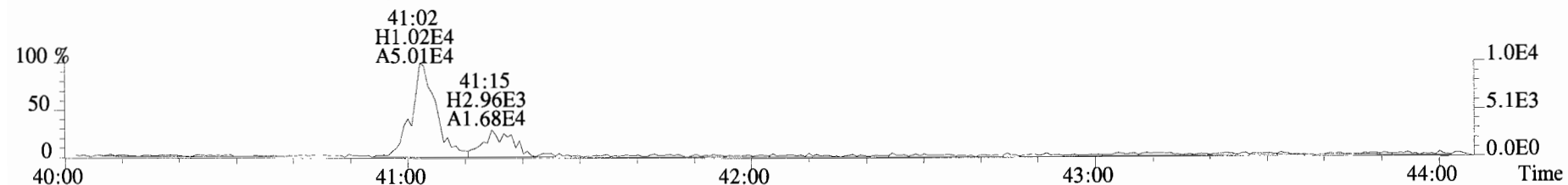
454.9728 F:4



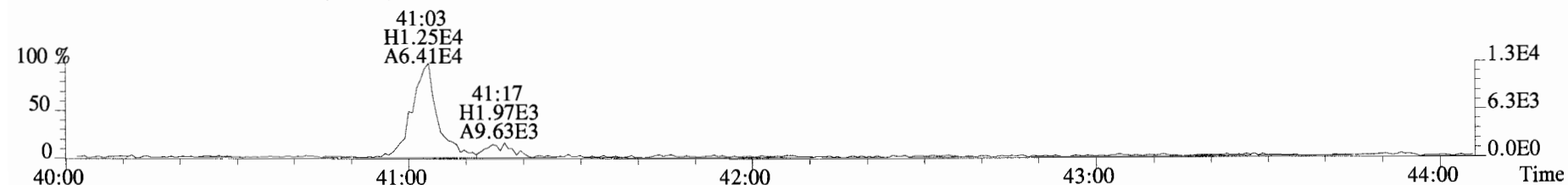
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



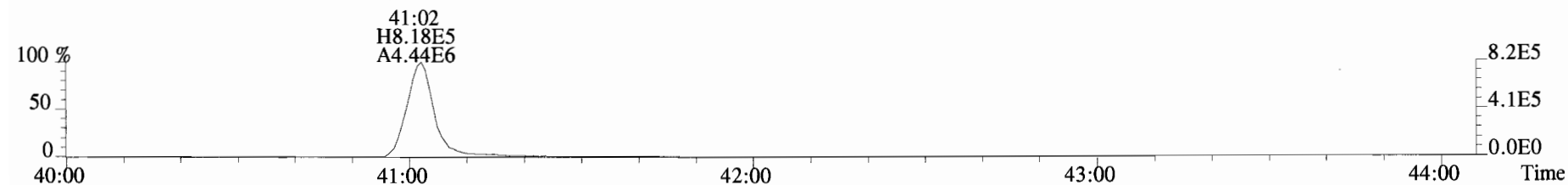
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



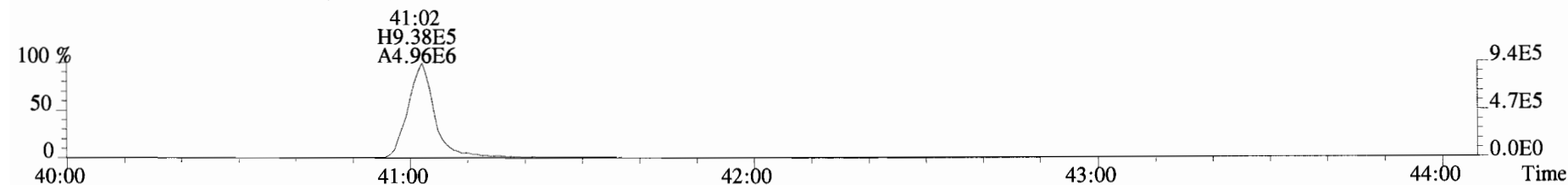
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



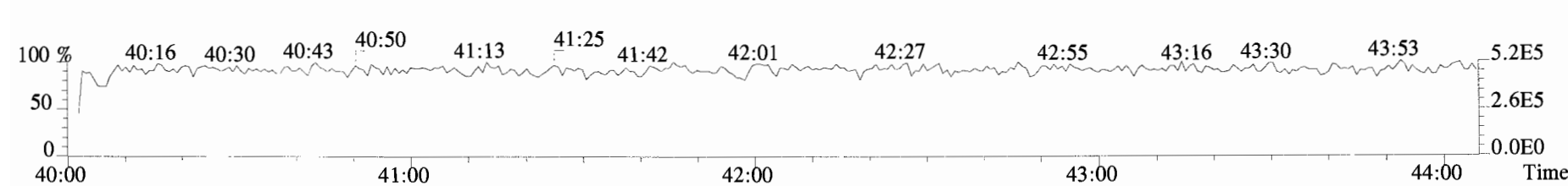
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



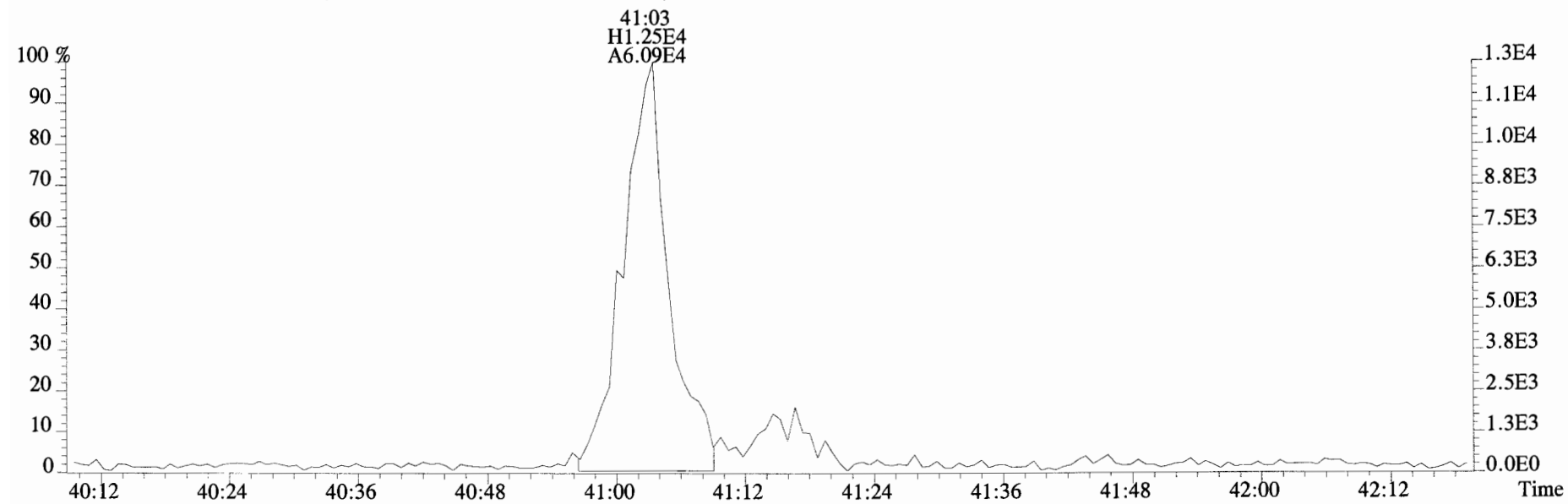
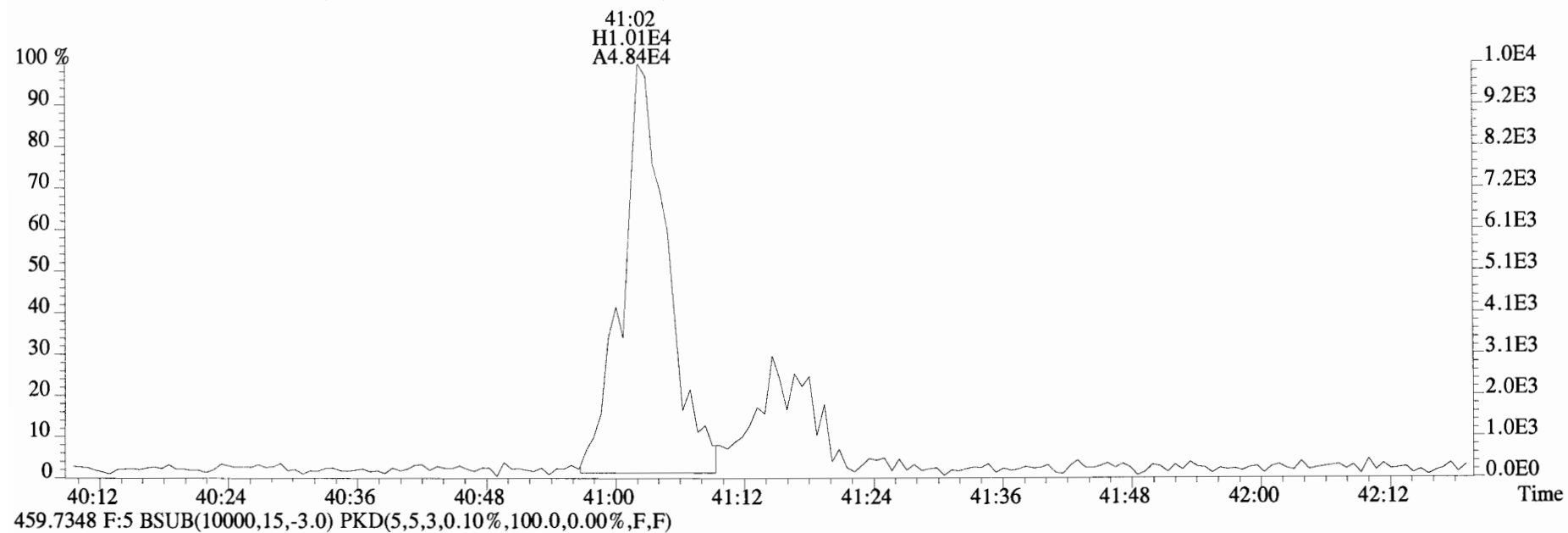
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



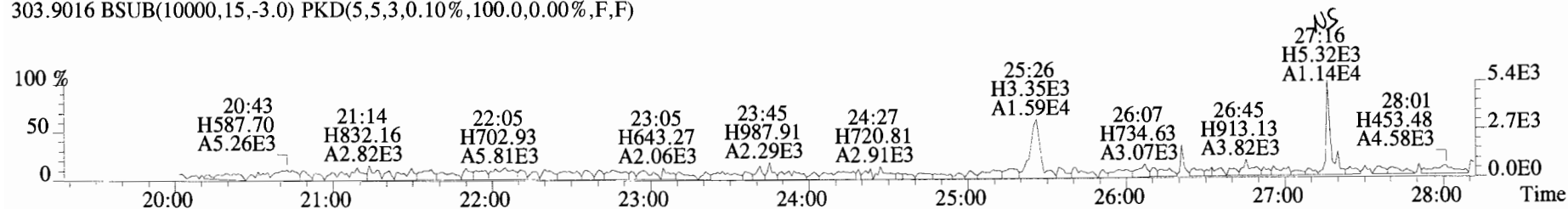
454.9728 F:5



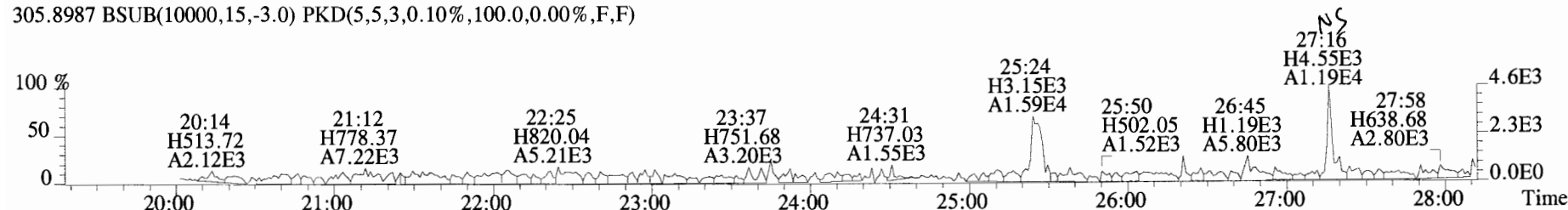
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



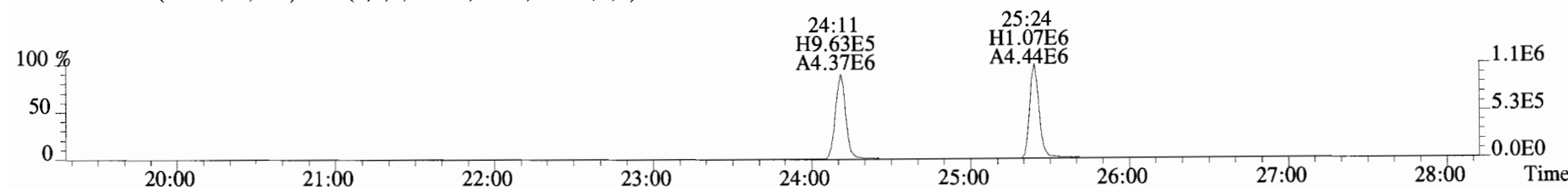
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



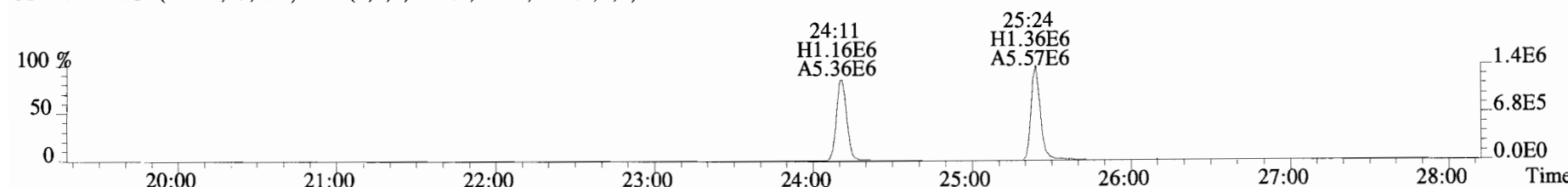
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



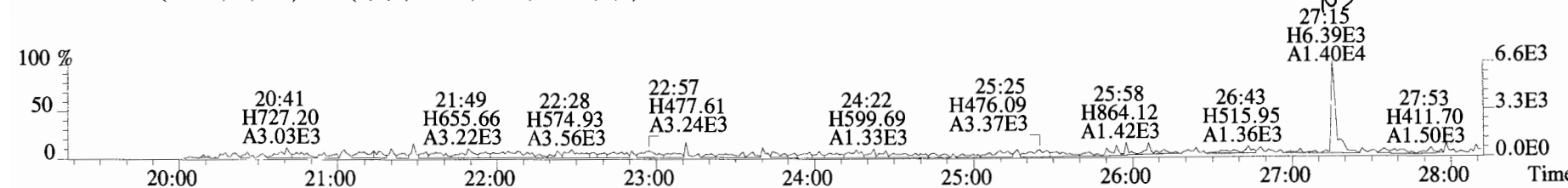
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



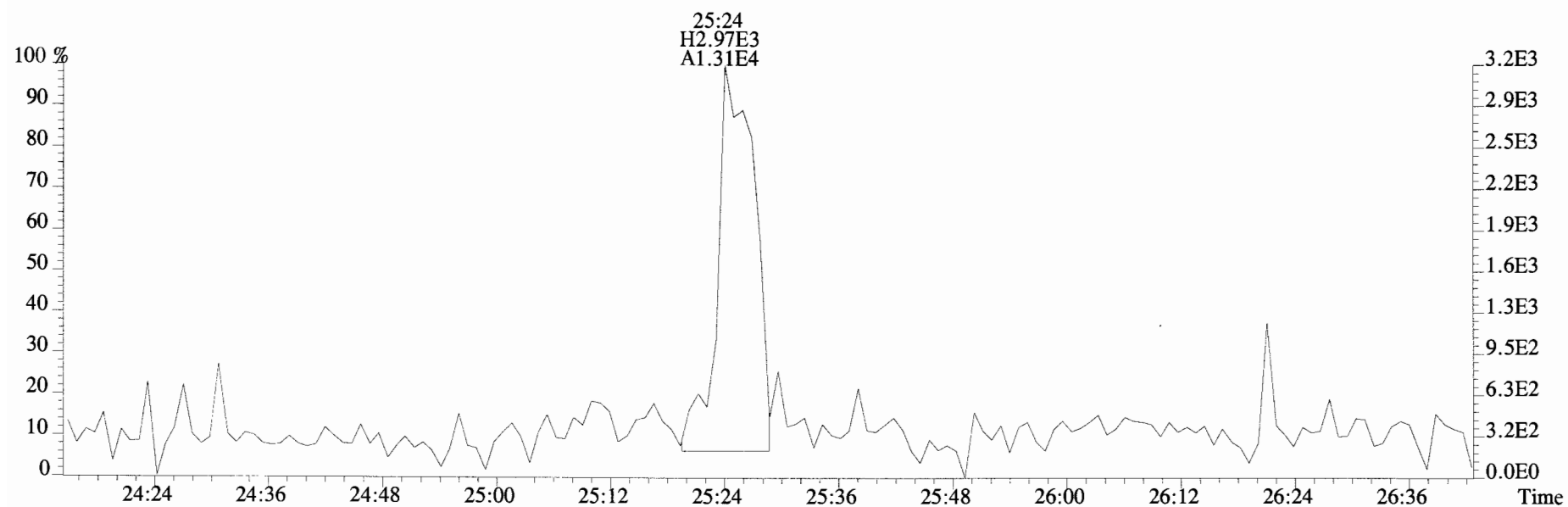
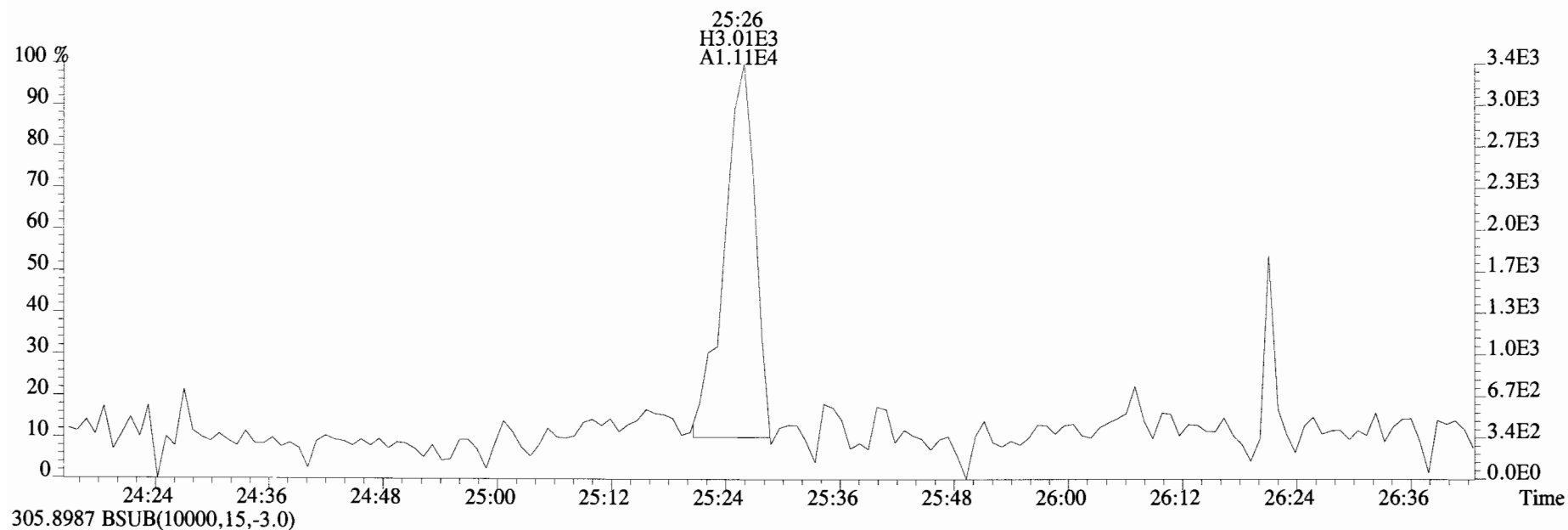
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



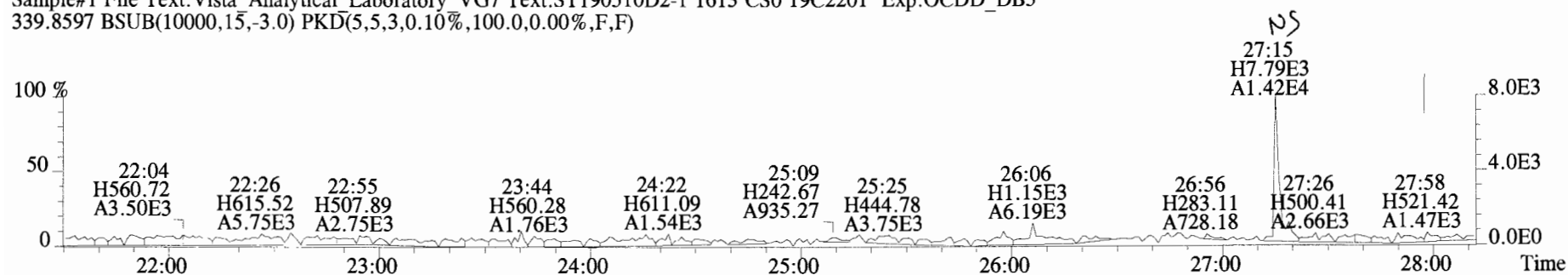
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



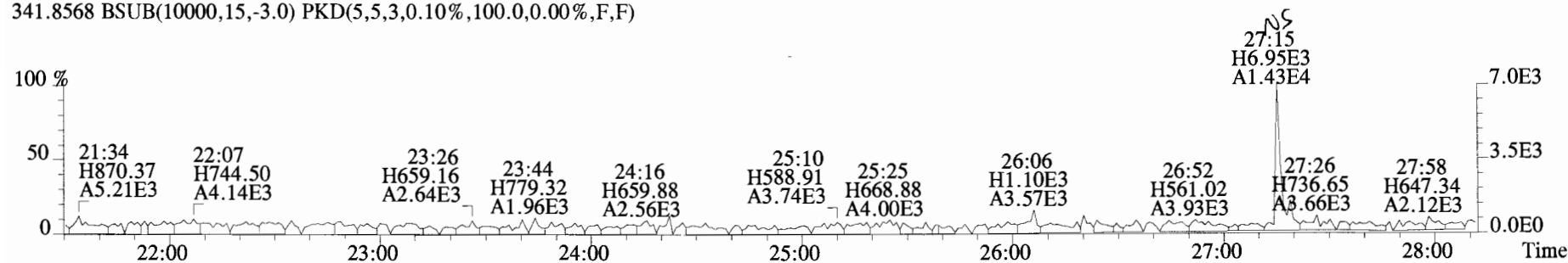
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0)



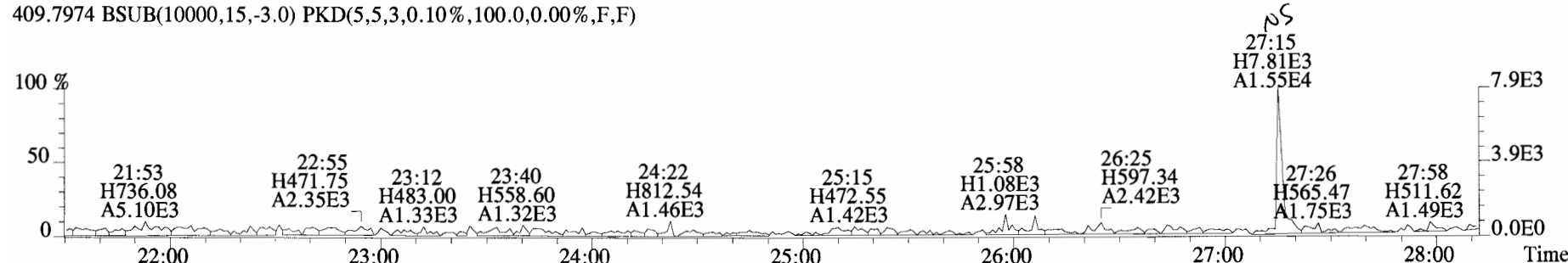
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



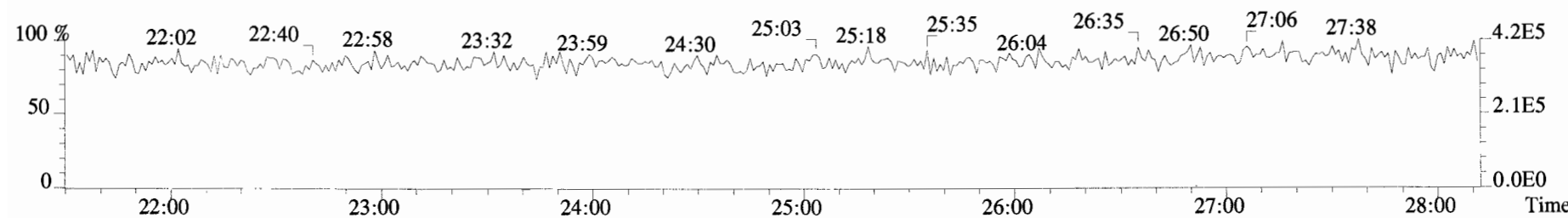
341.8568 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



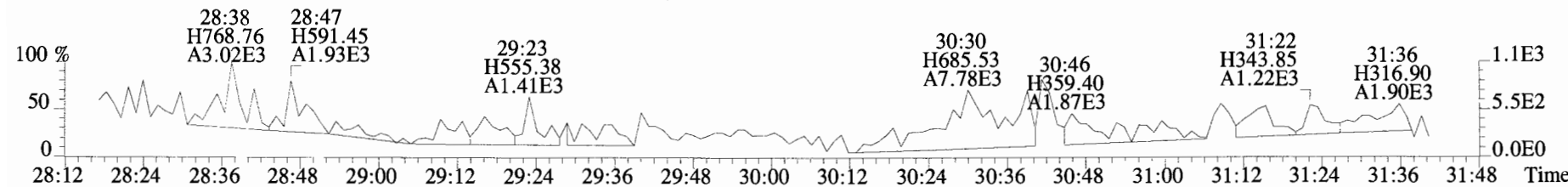
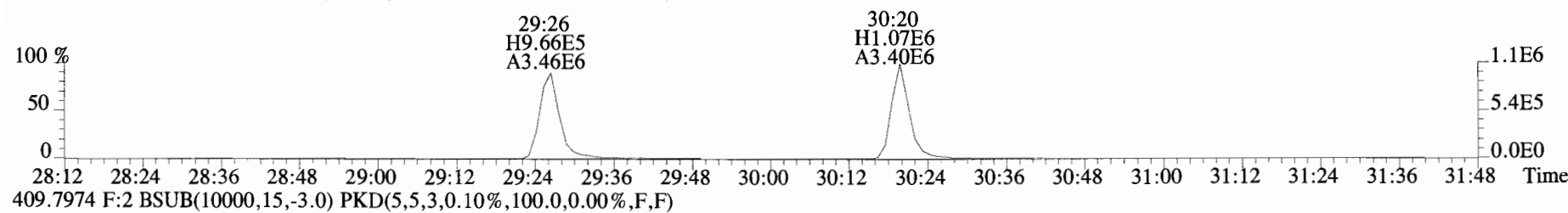
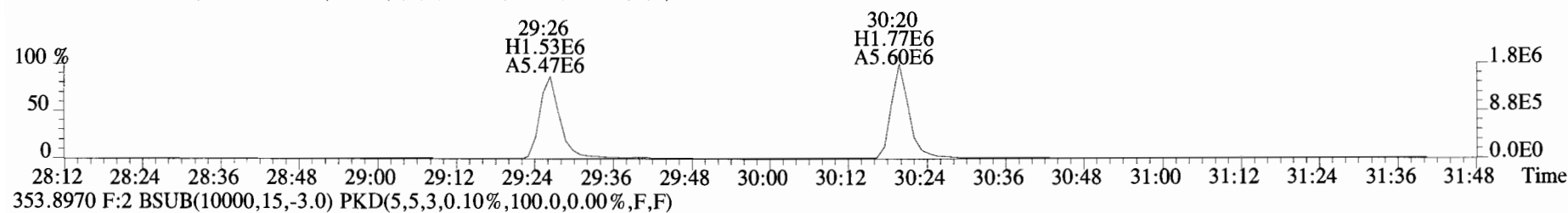
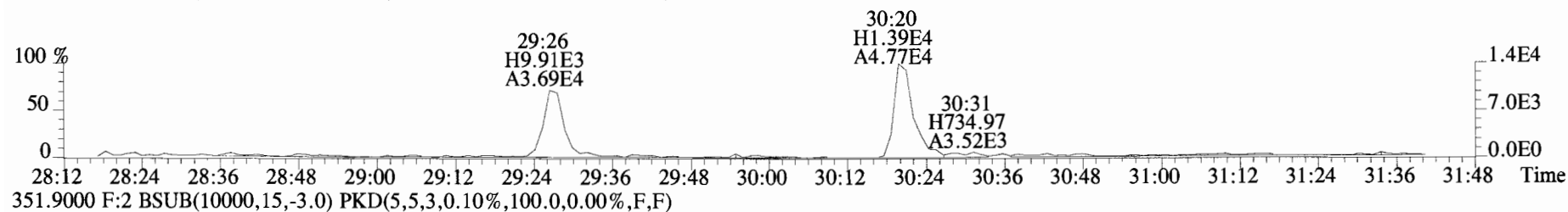
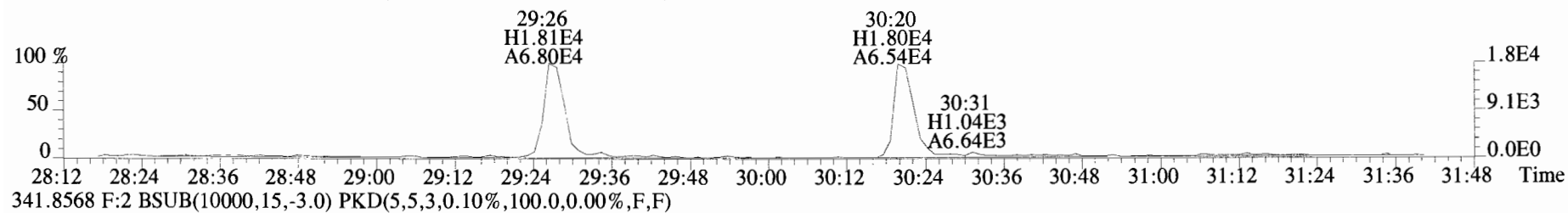
409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



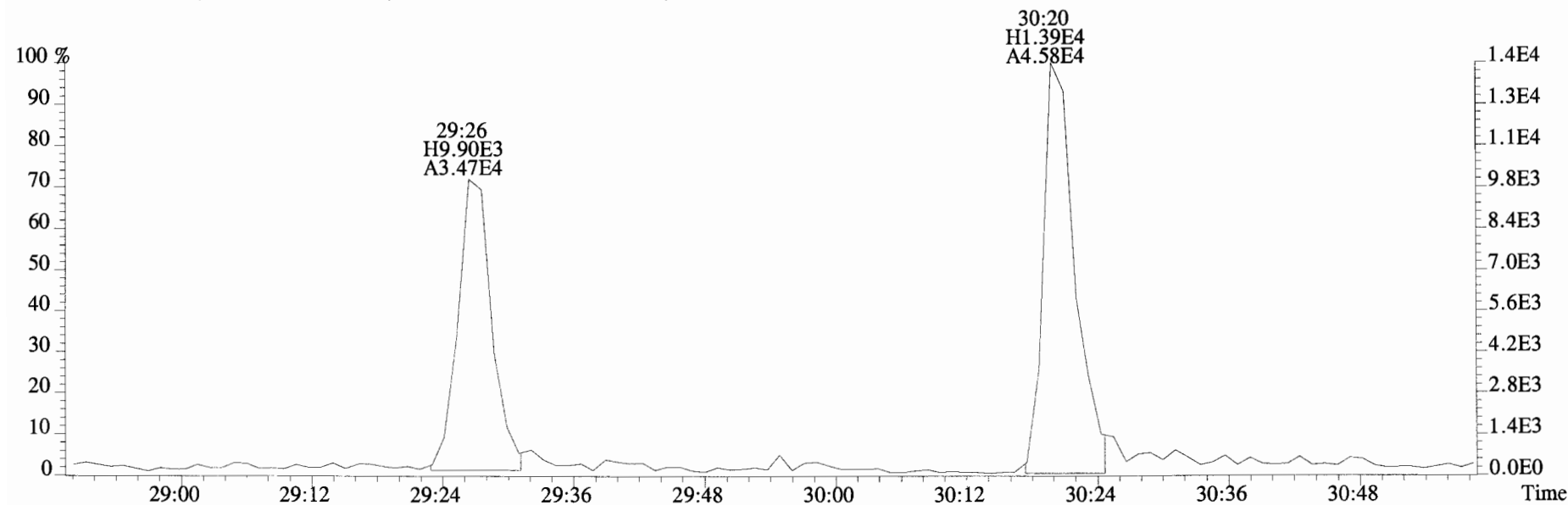
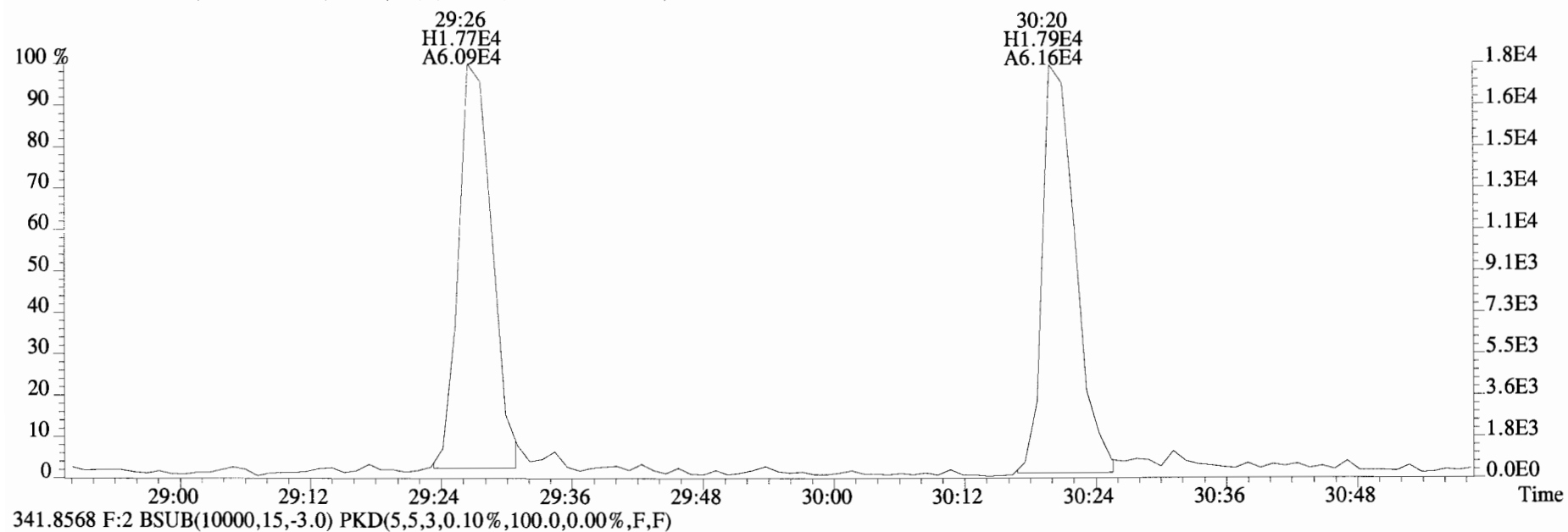
316.9824



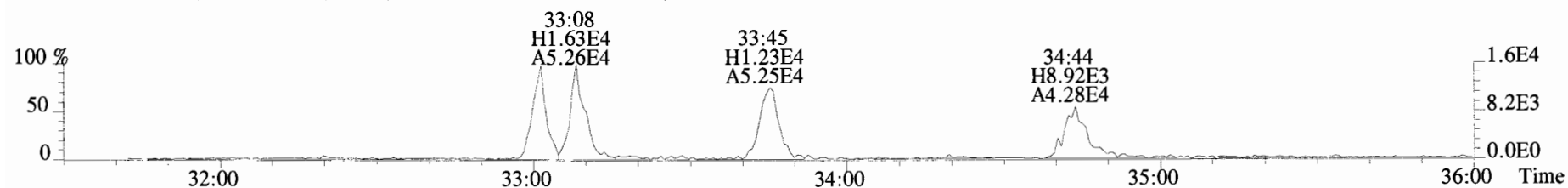
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



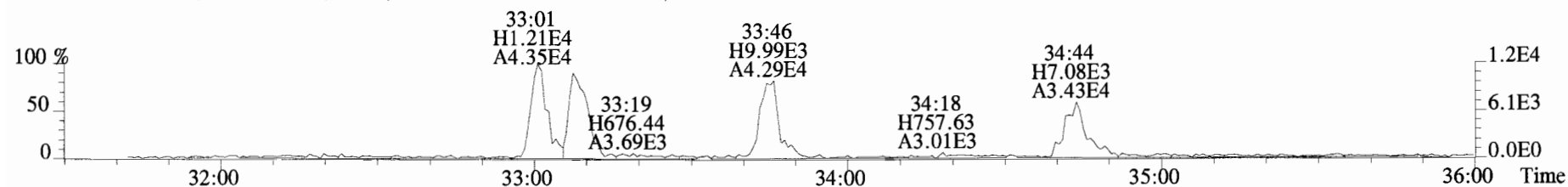
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



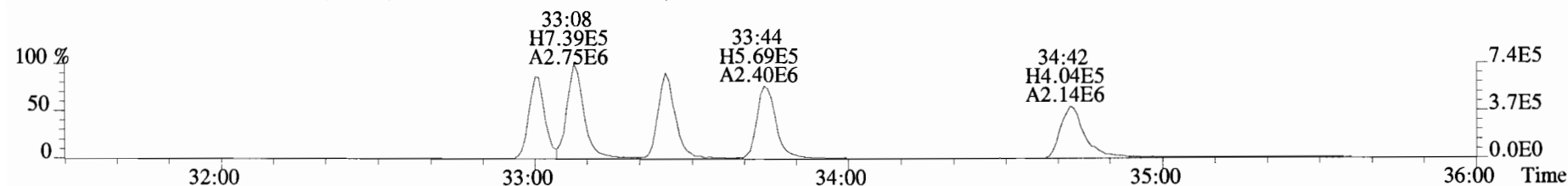
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



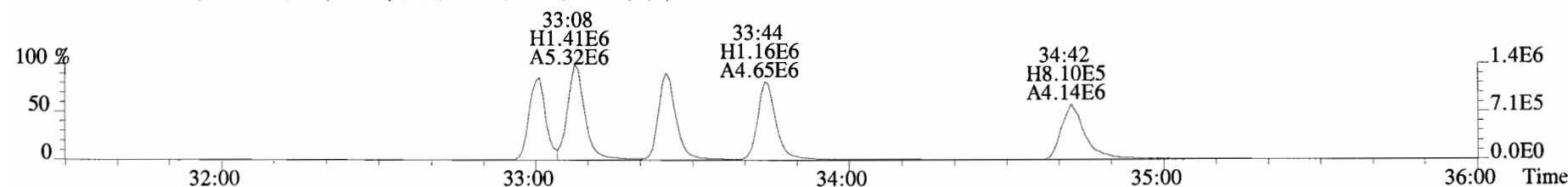
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



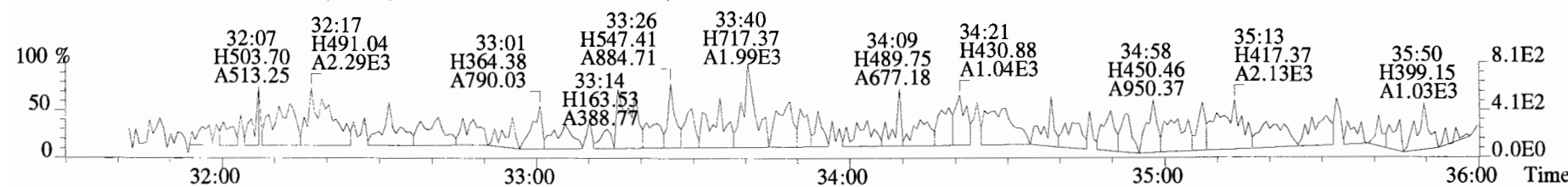
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



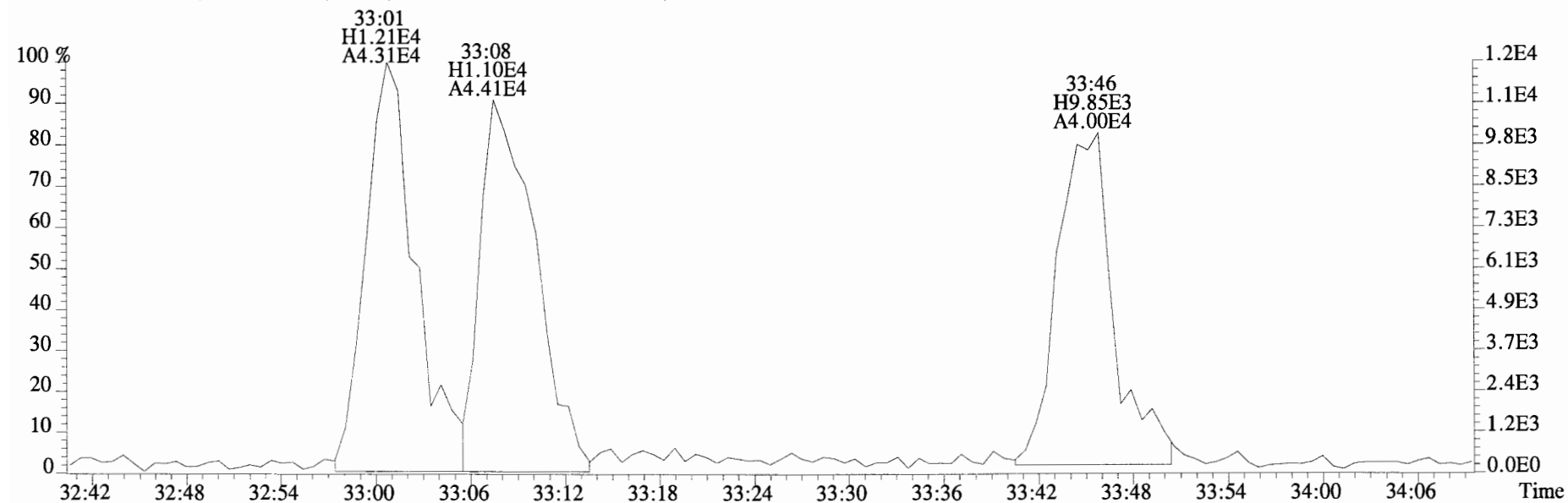
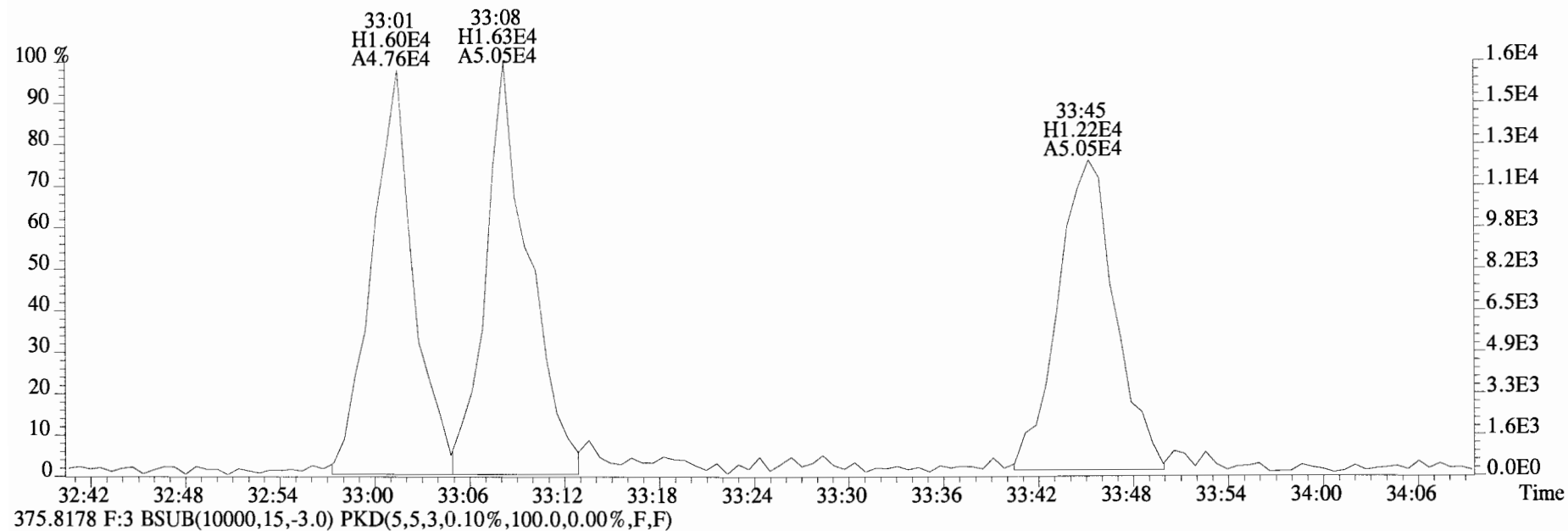
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



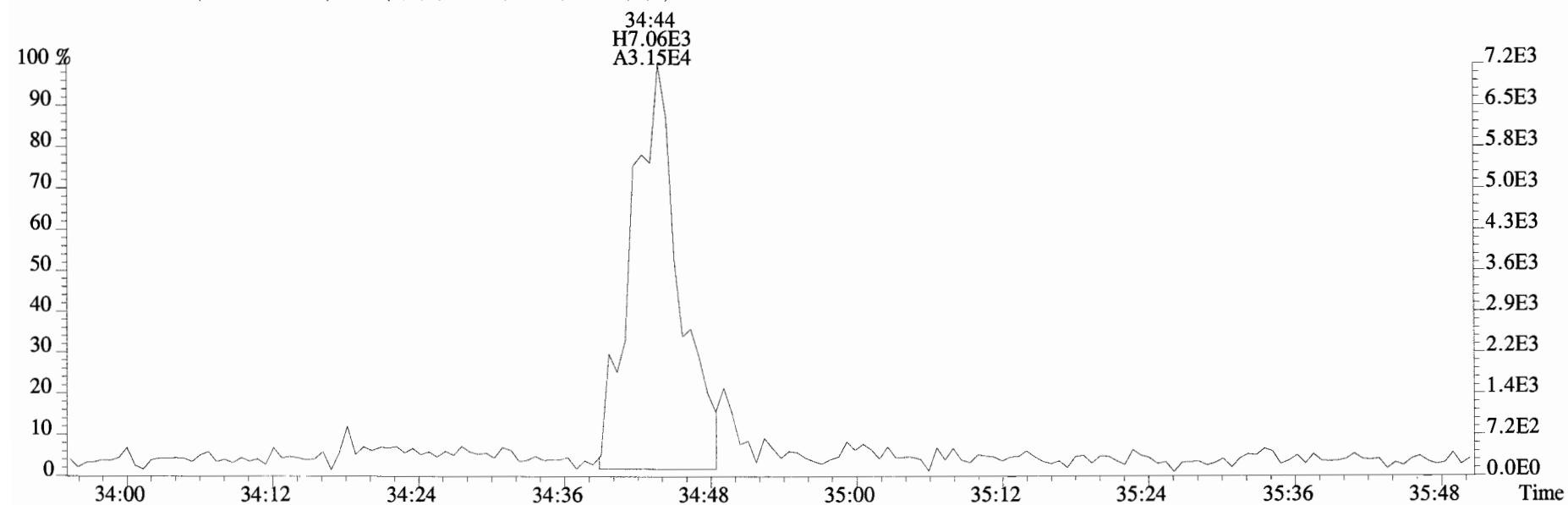
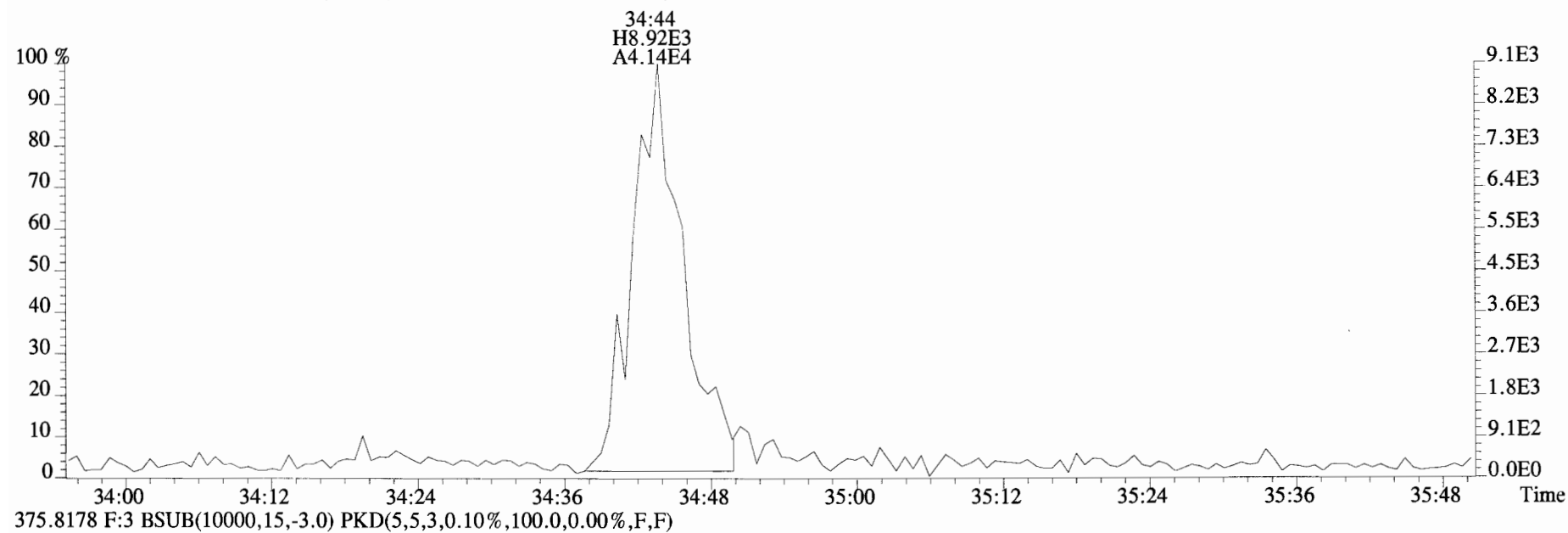
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



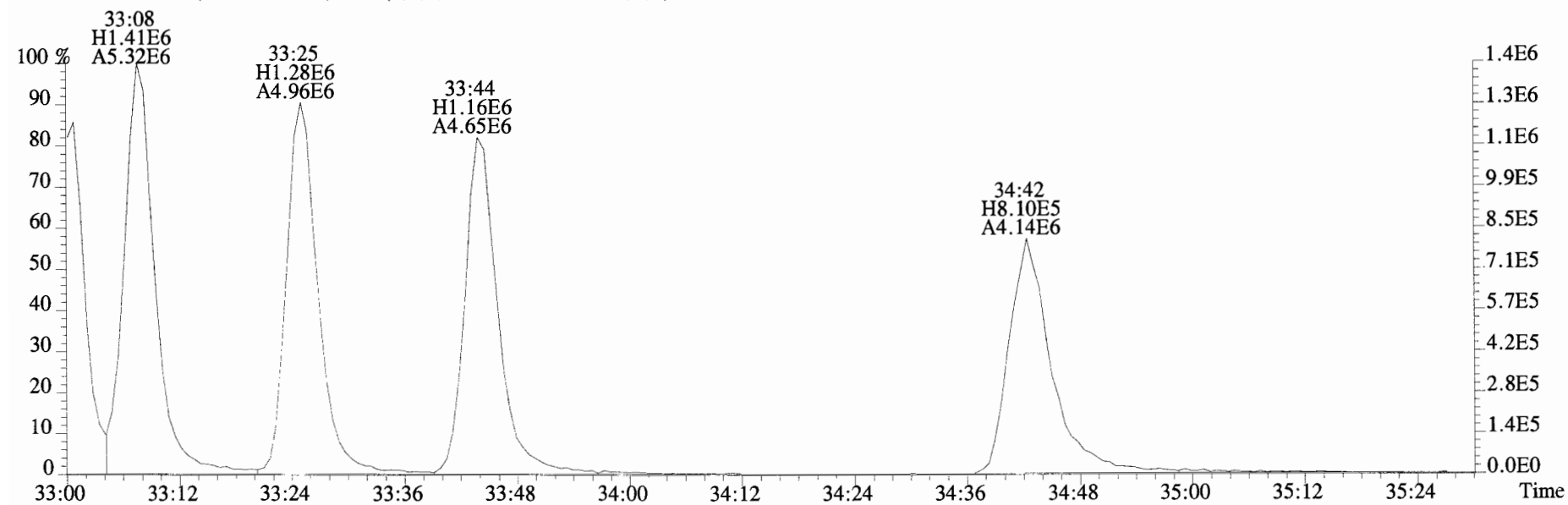
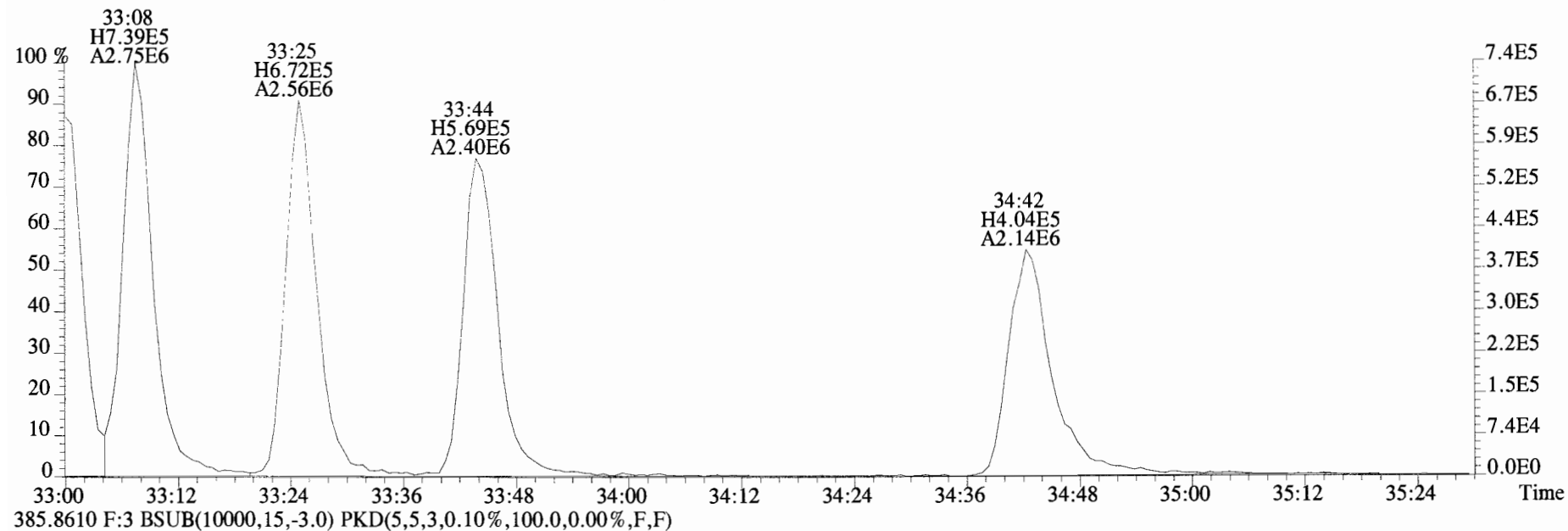
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



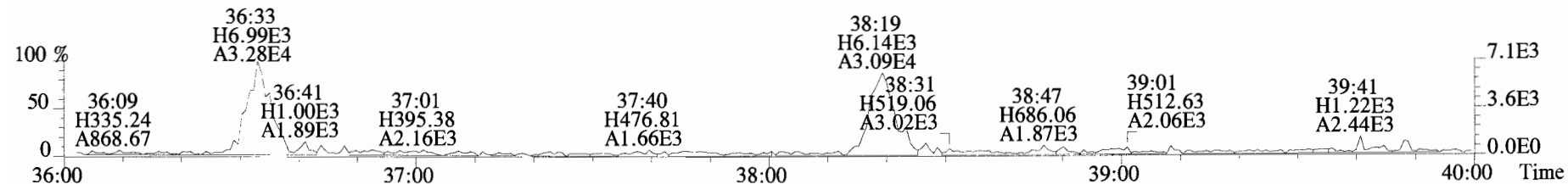
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



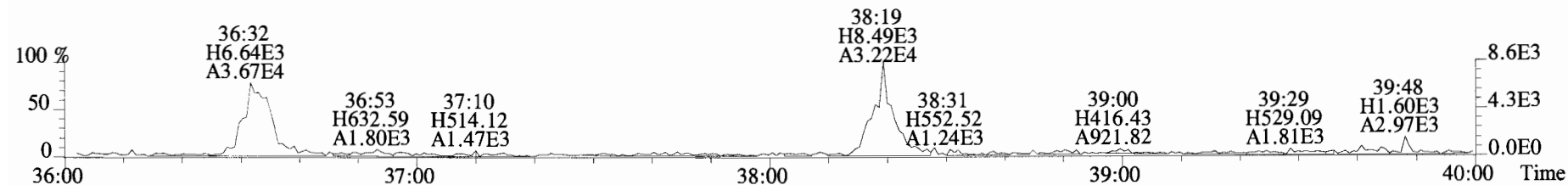
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



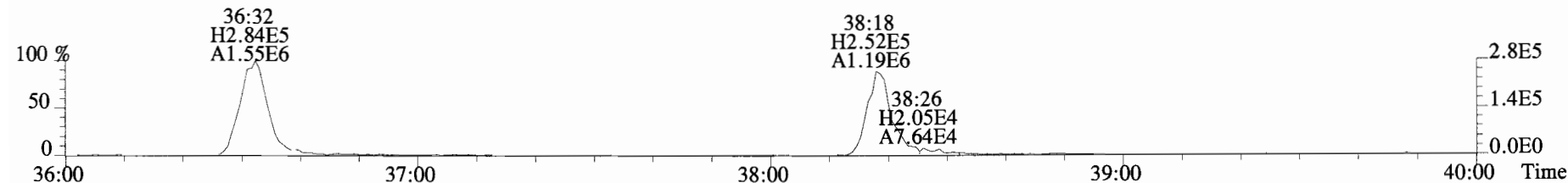
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



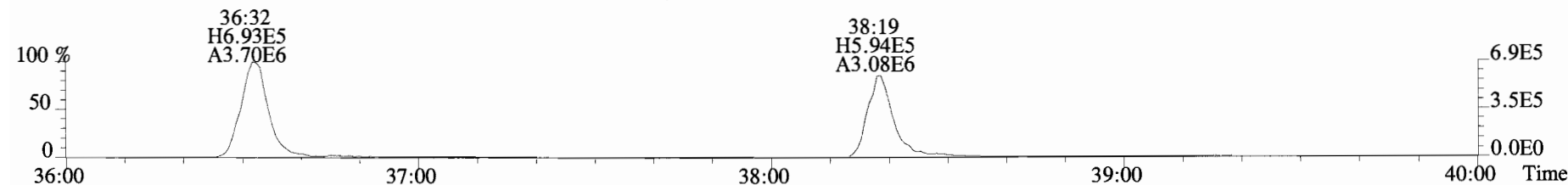
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



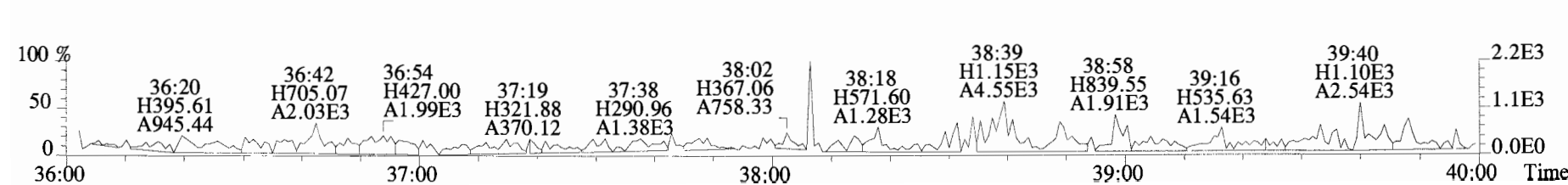
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



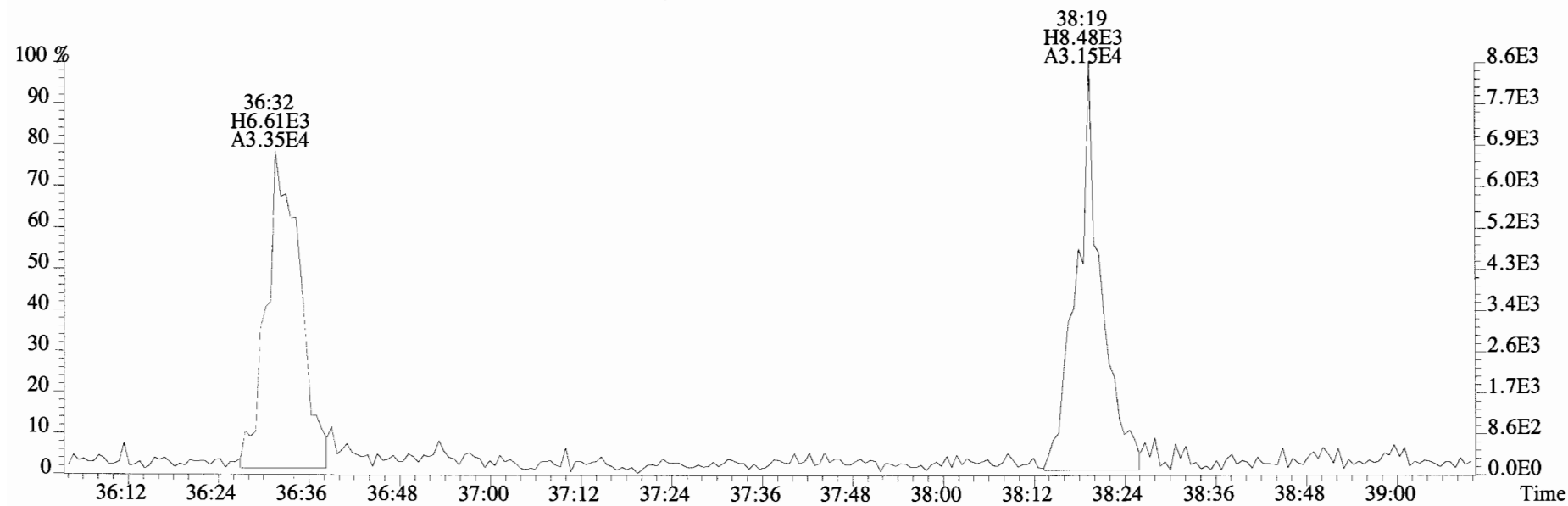
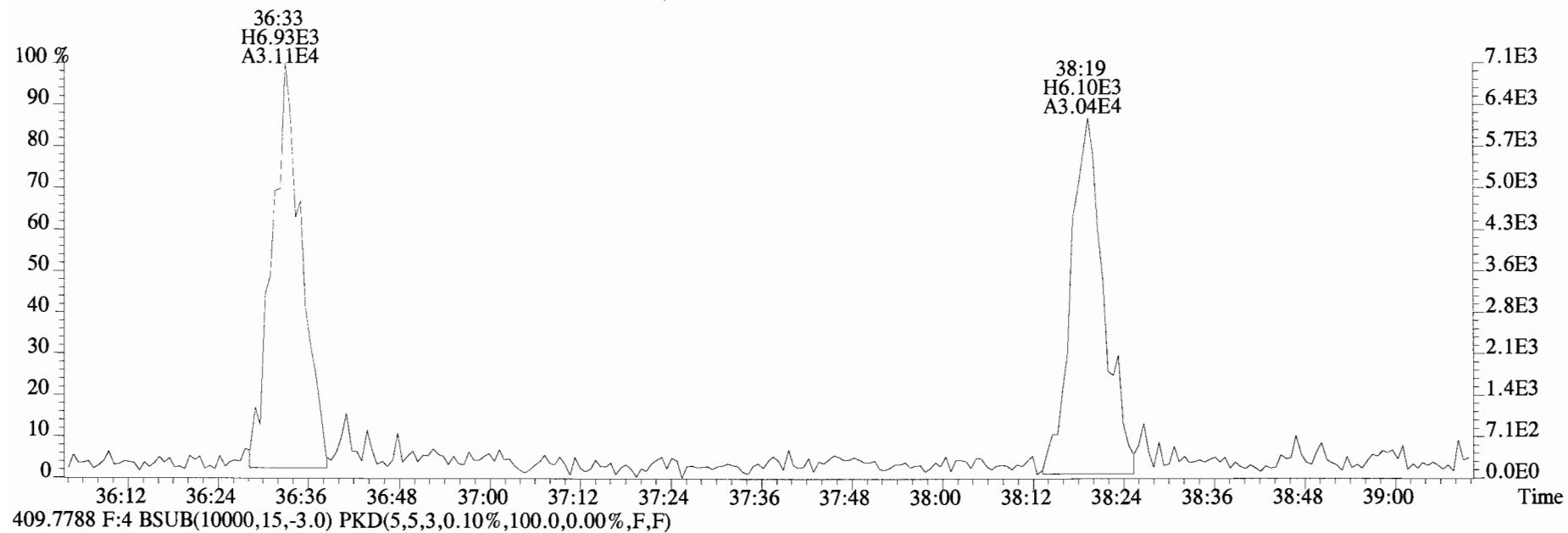
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



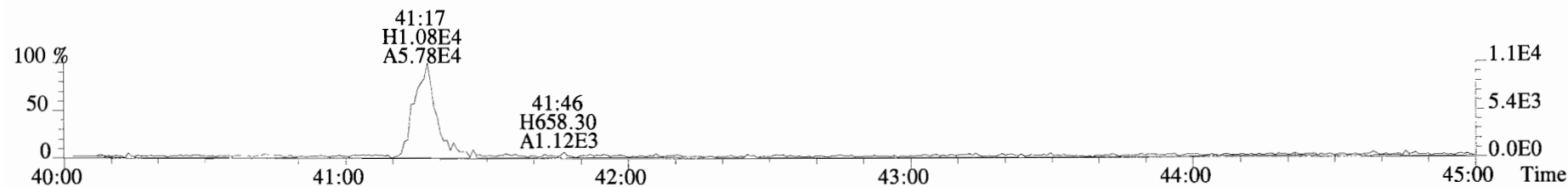
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



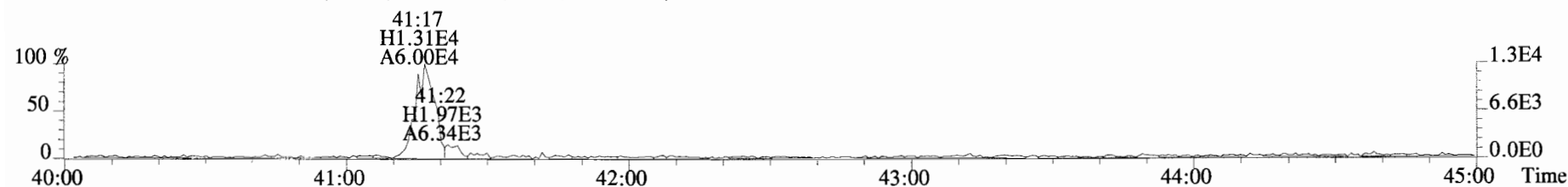
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



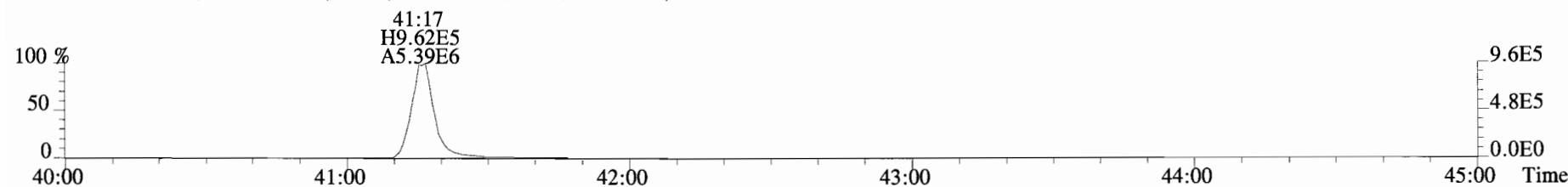
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



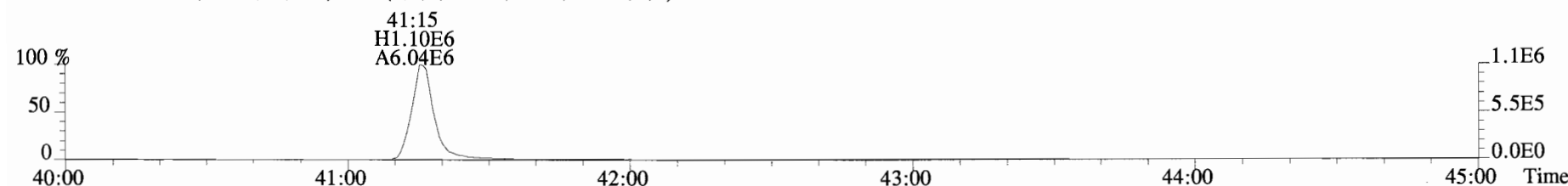
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



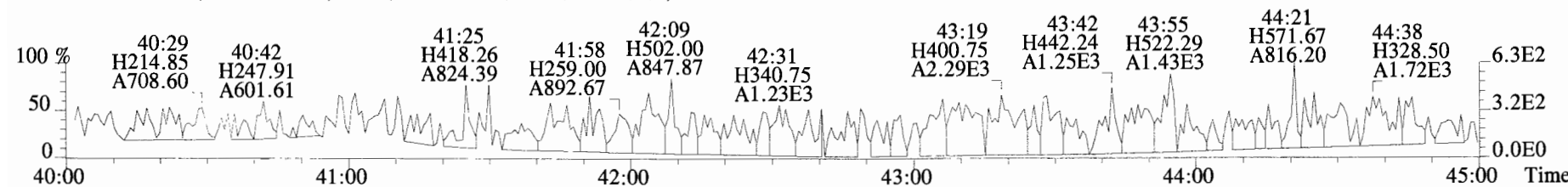
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



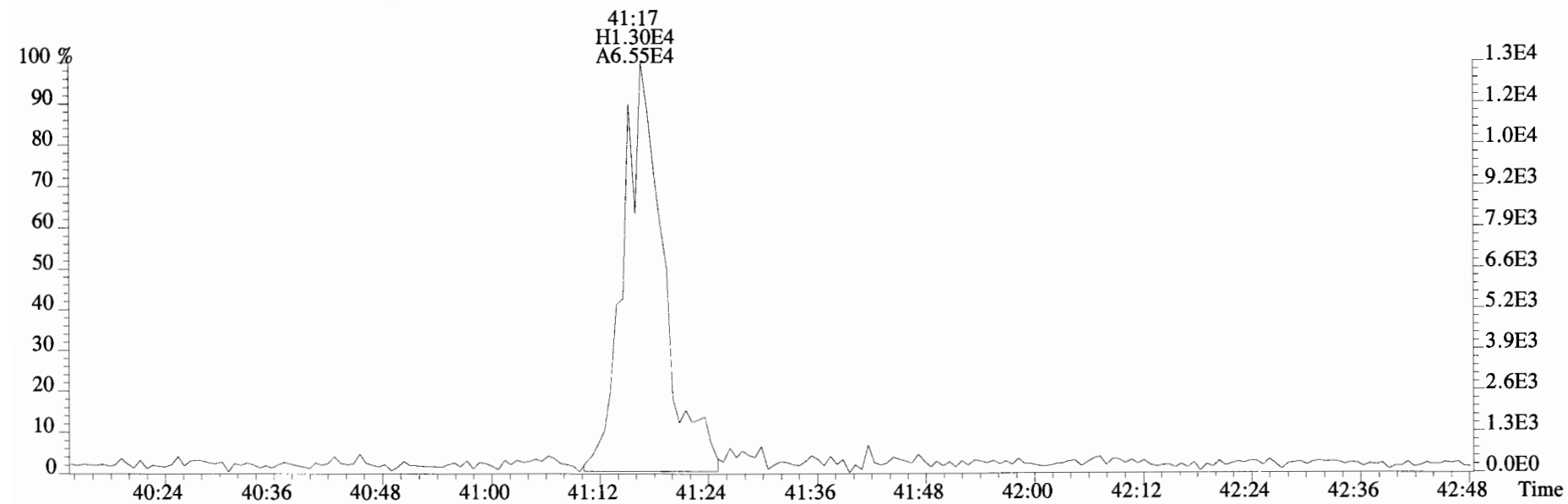
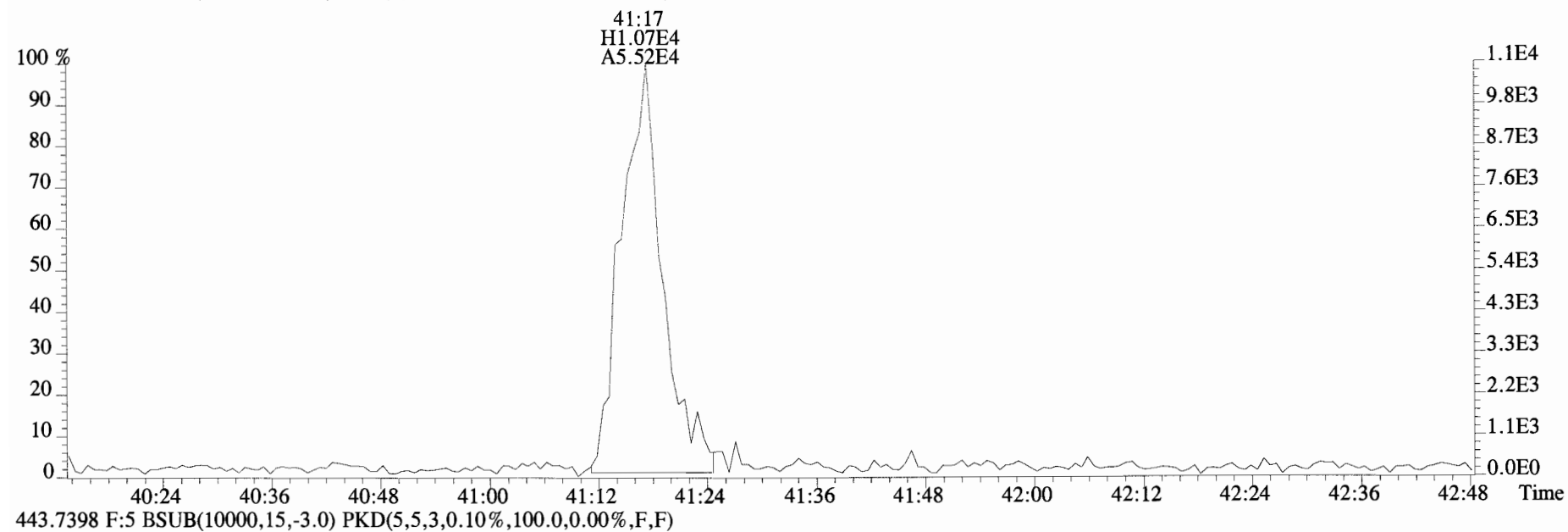
455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



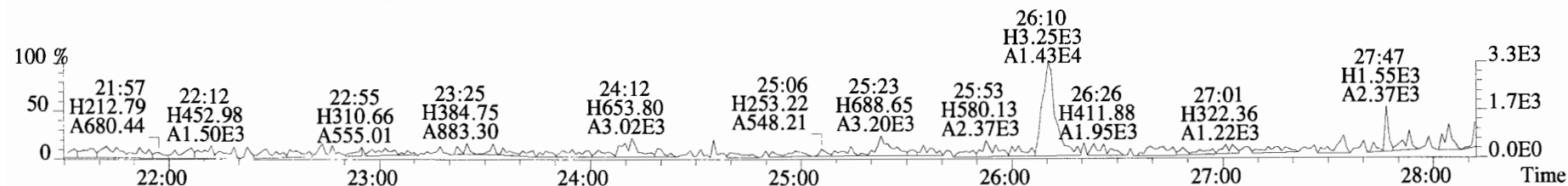
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



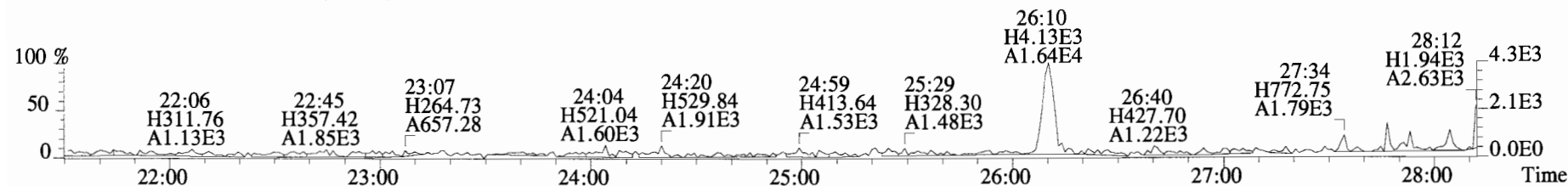
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



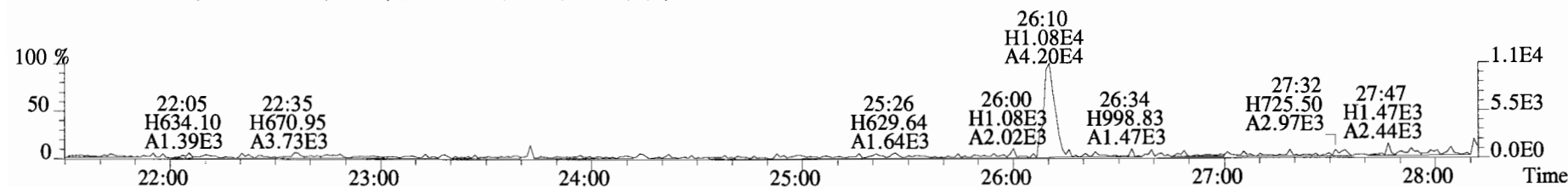
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



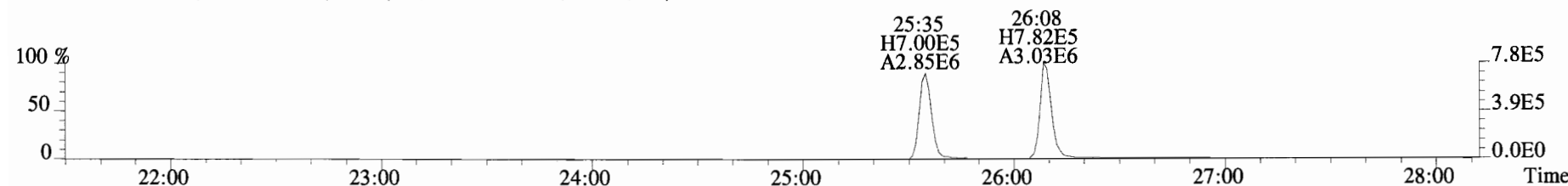
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



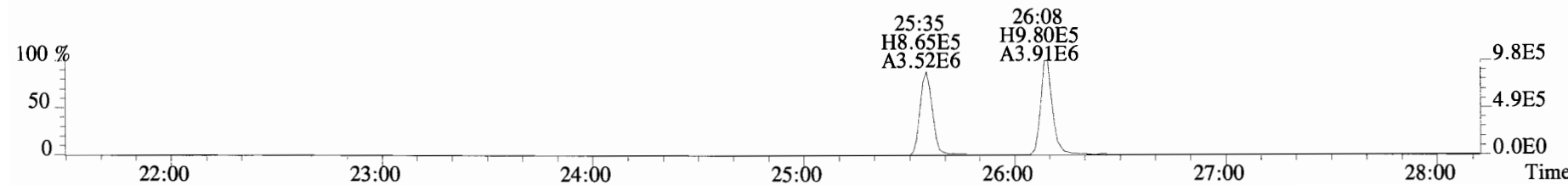
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



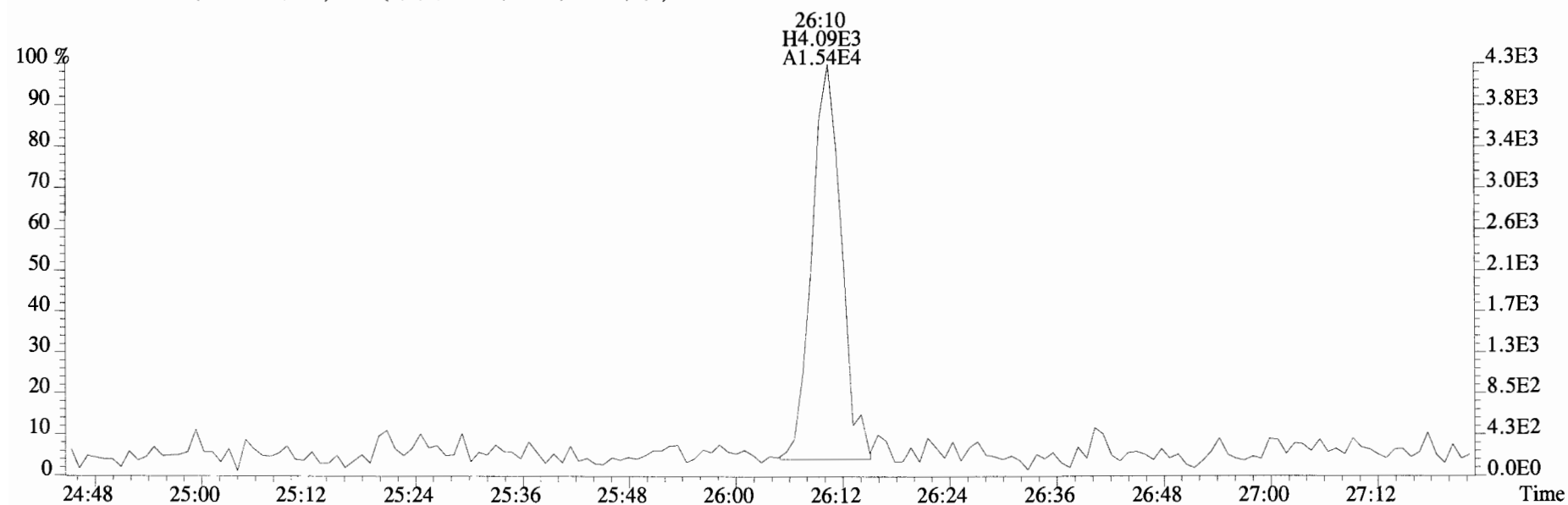
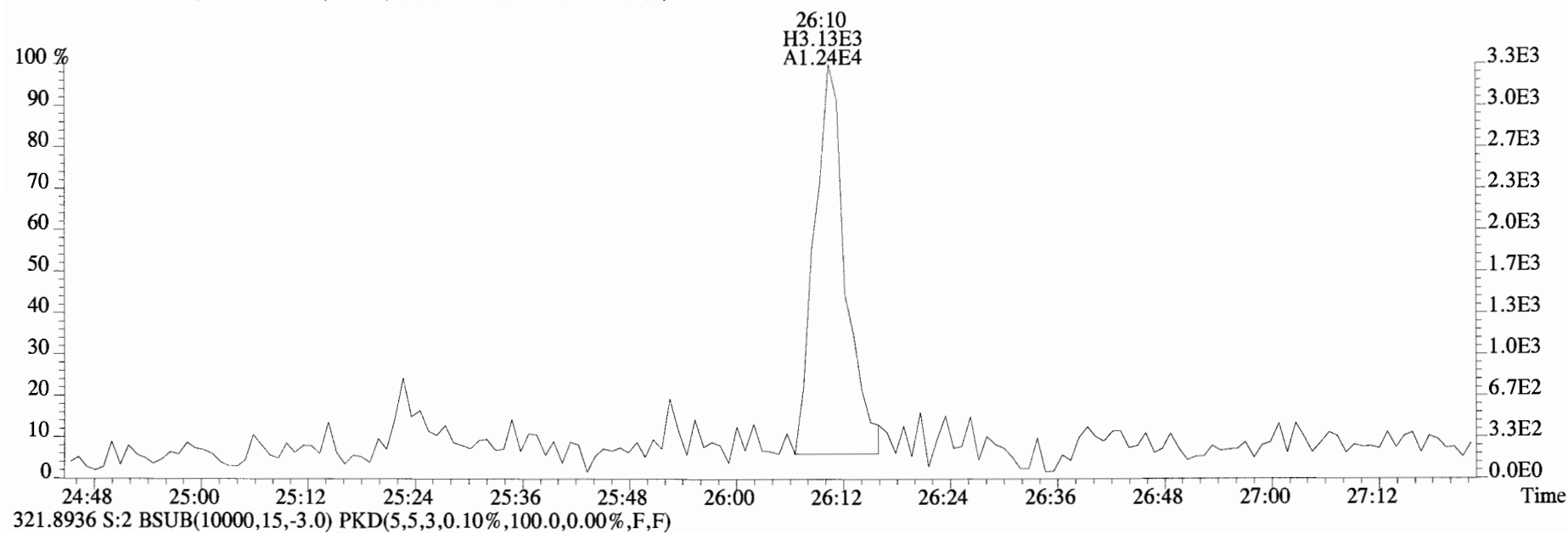
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



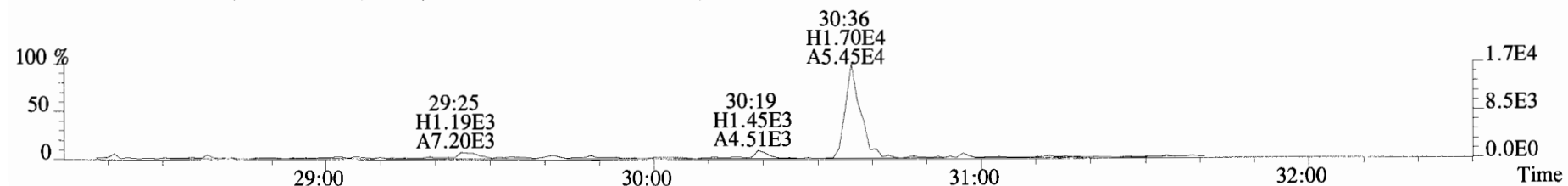
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



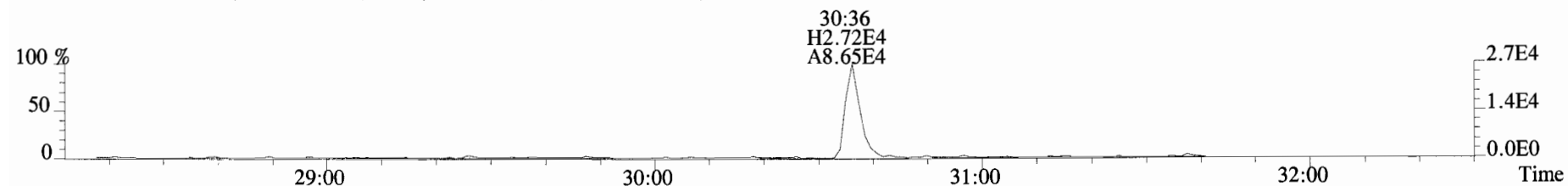
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



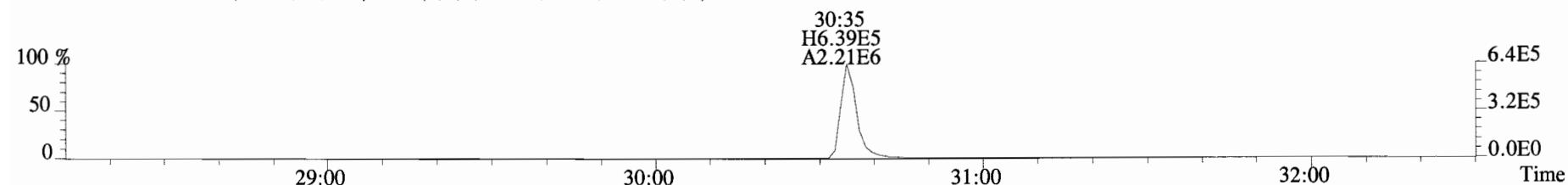
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



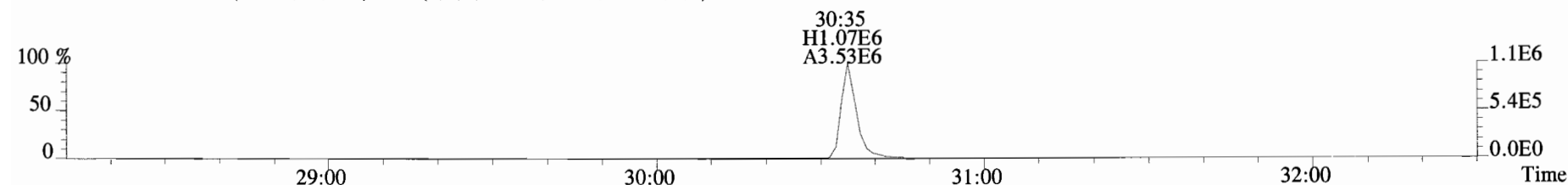
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



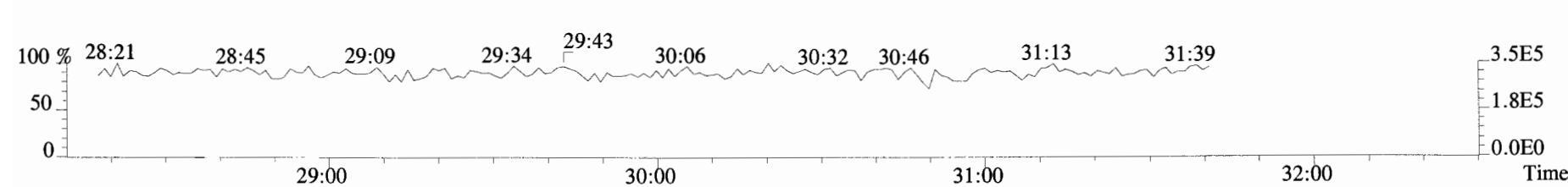
365.8978 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



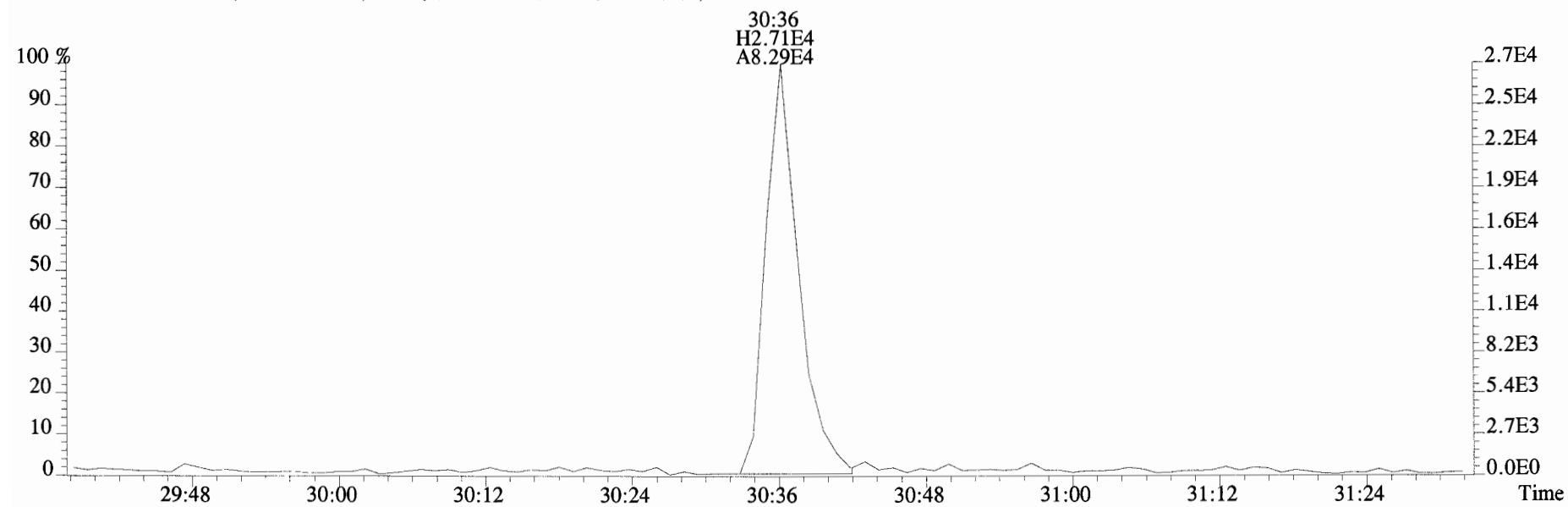
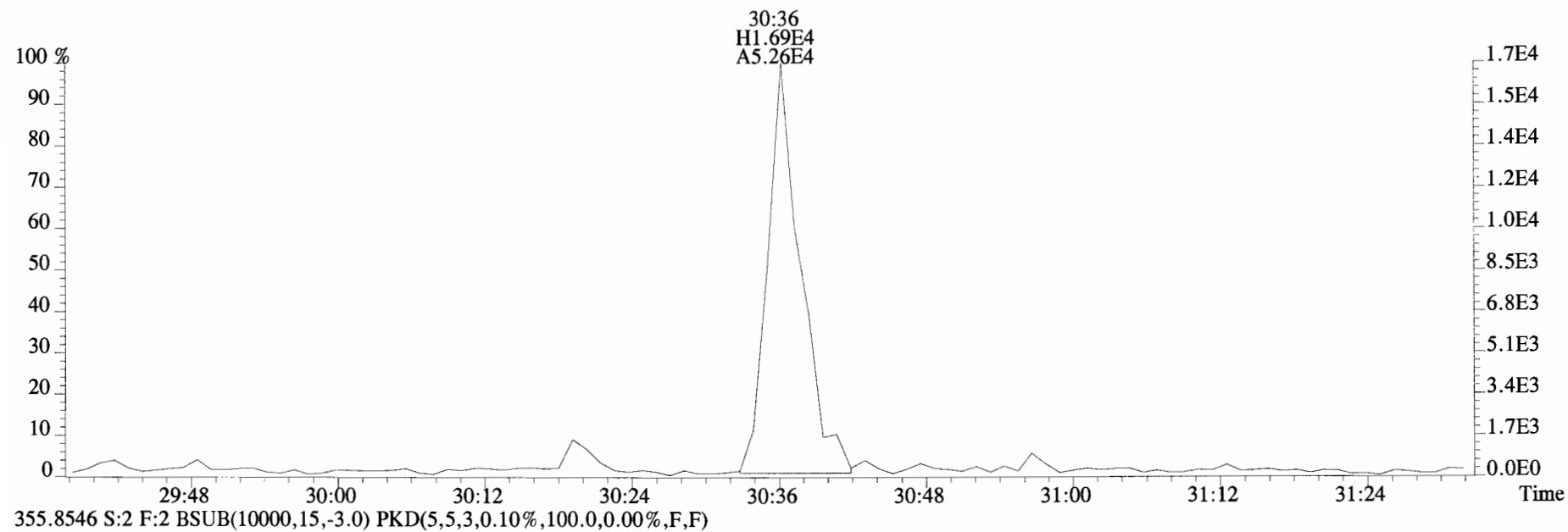
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



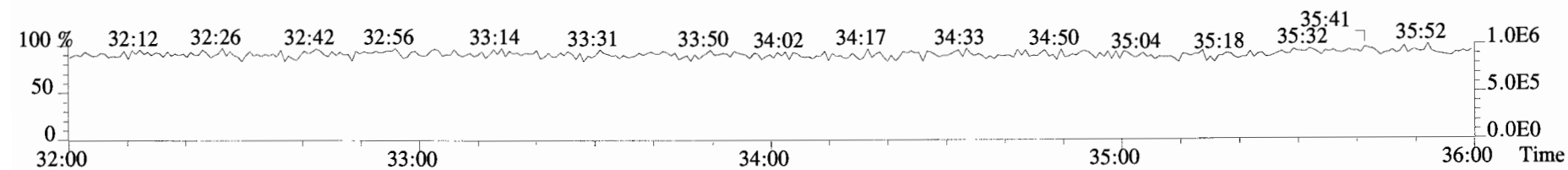
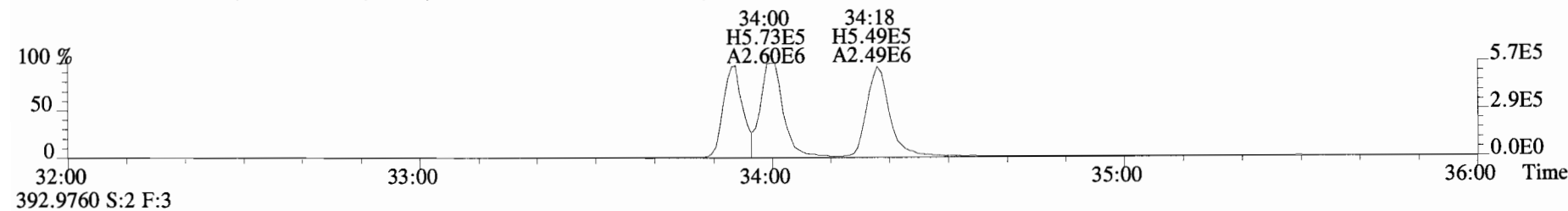
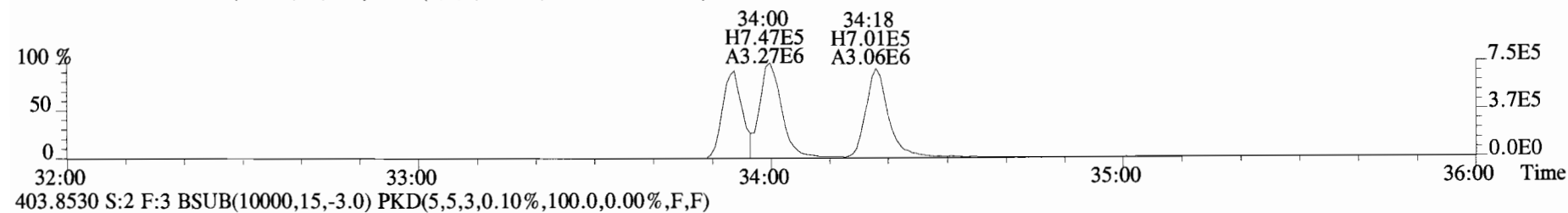
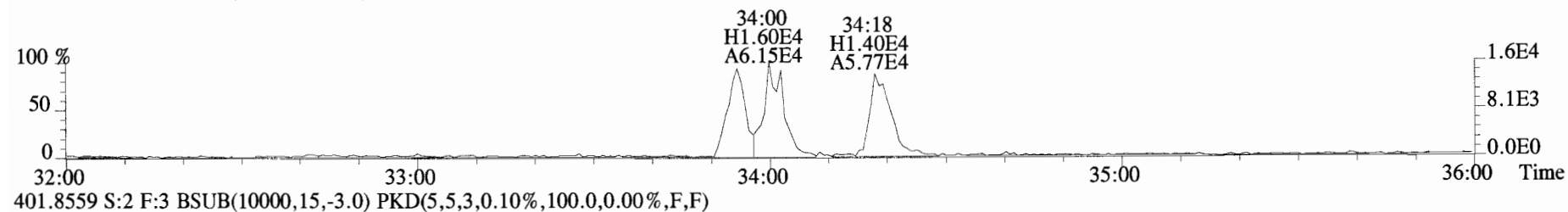
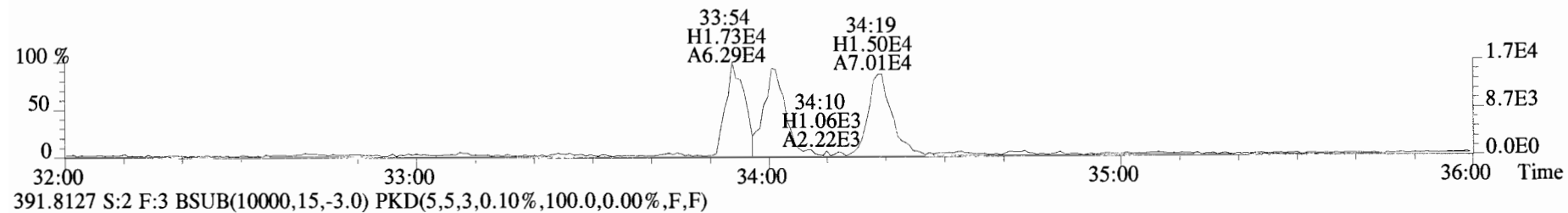
366.9792 S:2 F:2



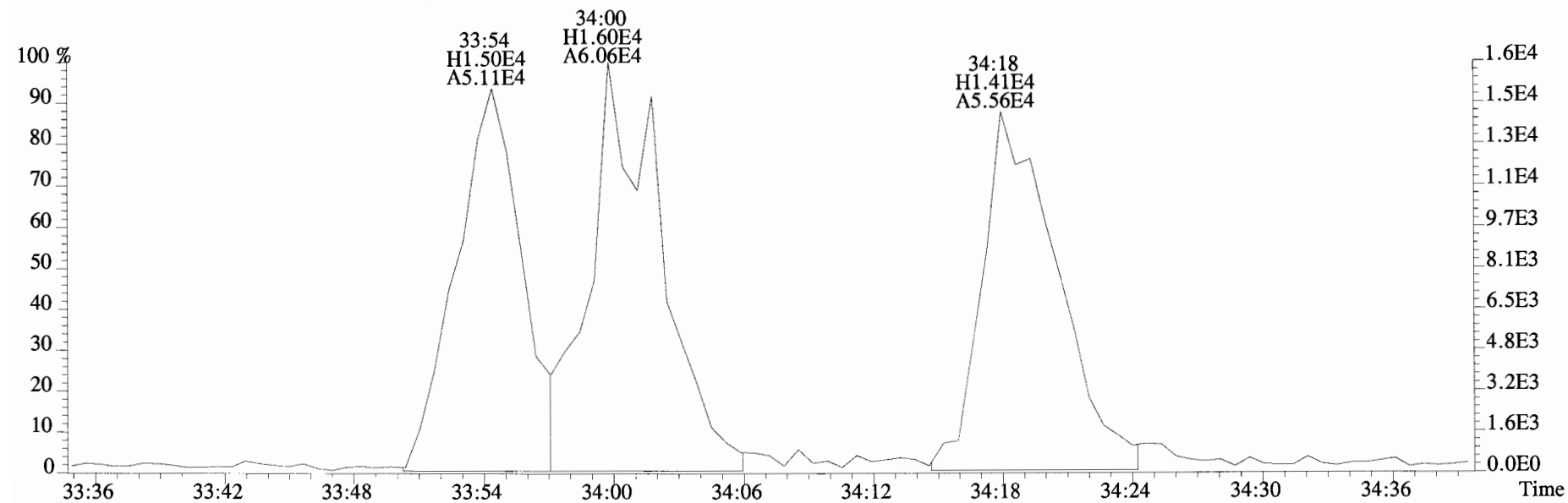
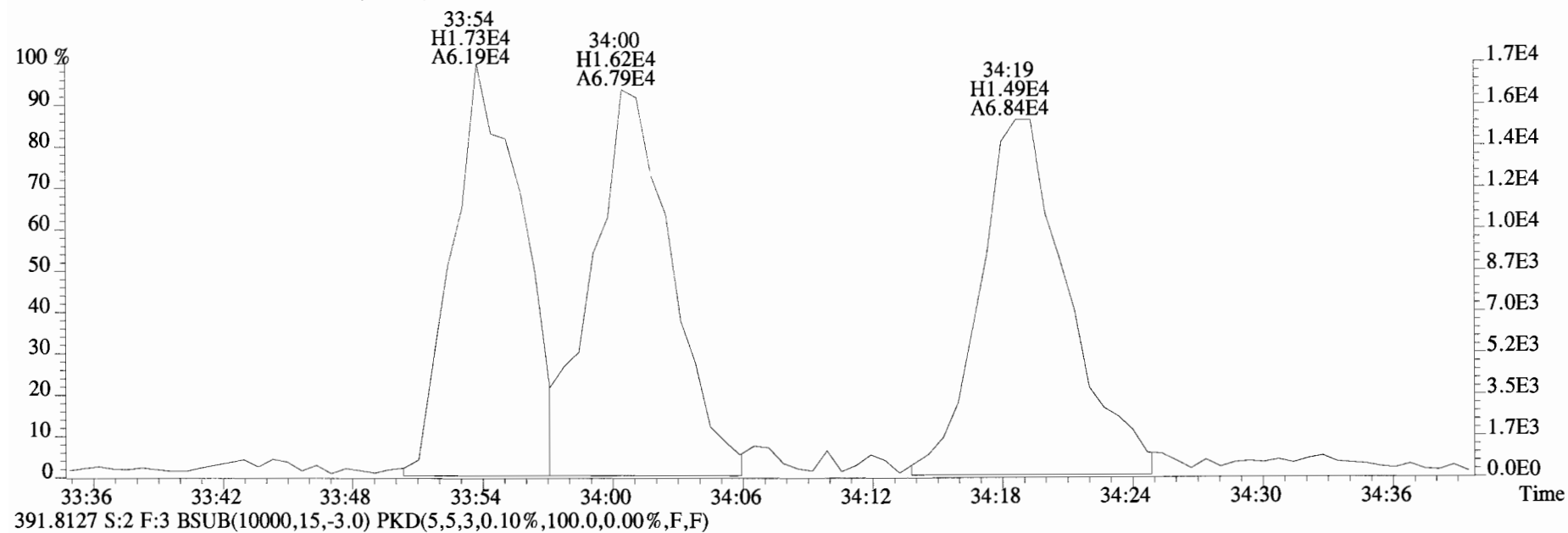
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



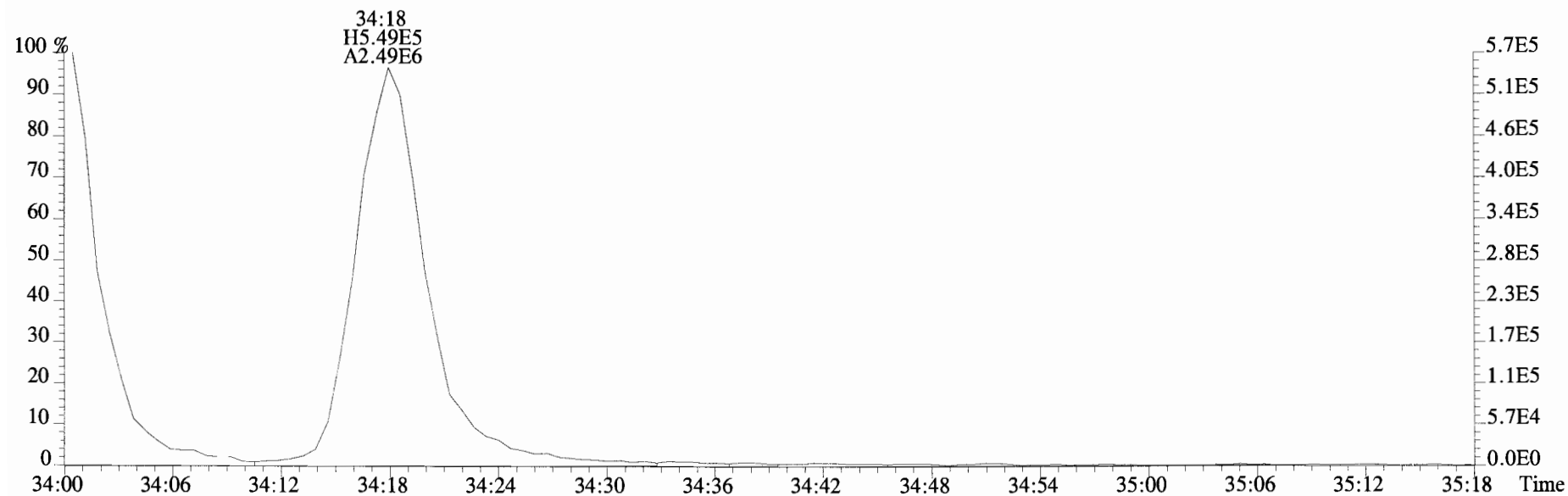
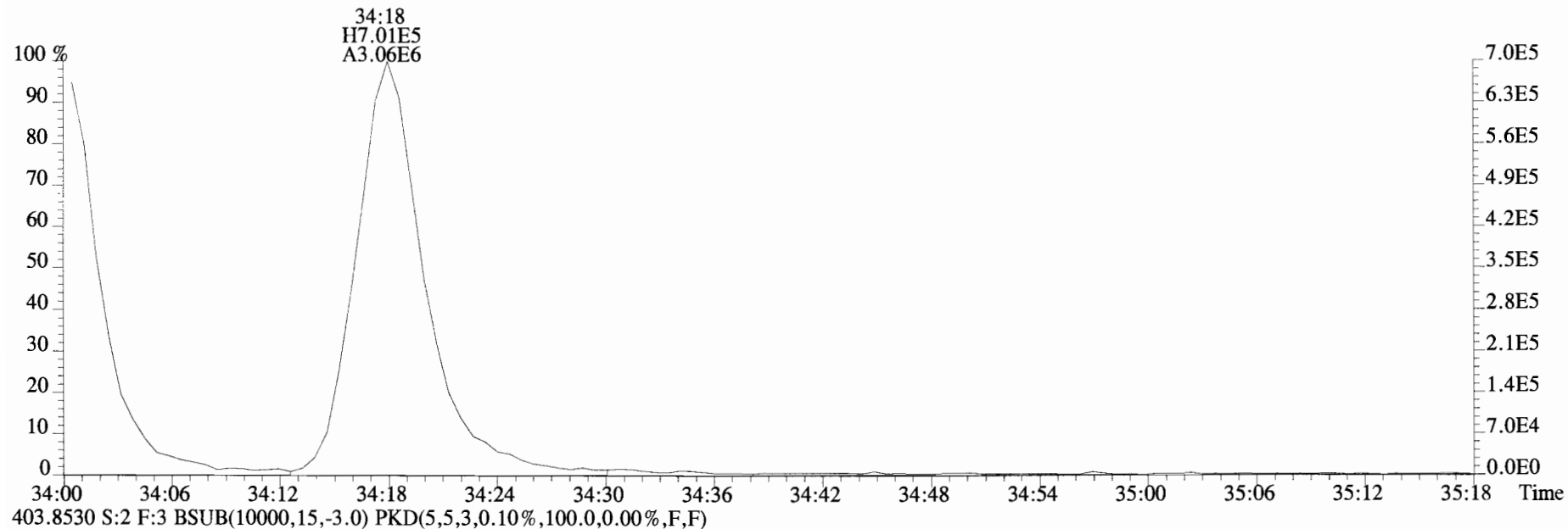
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



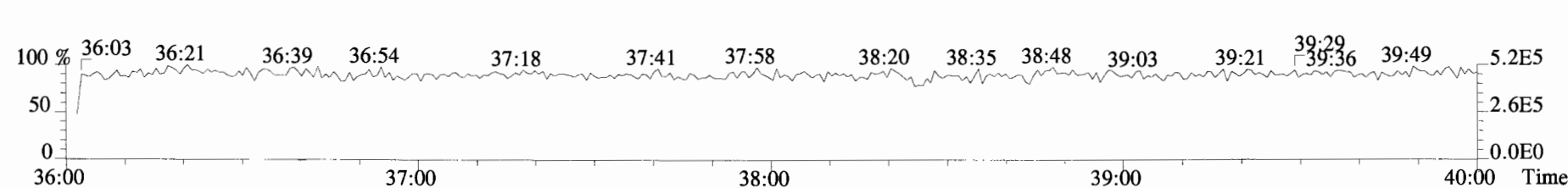
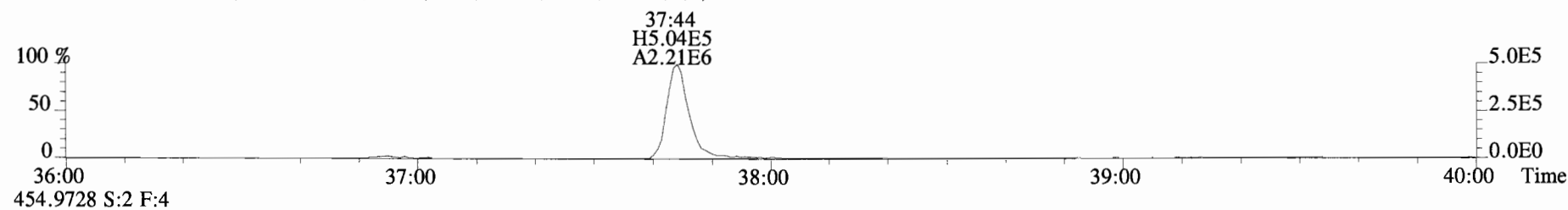
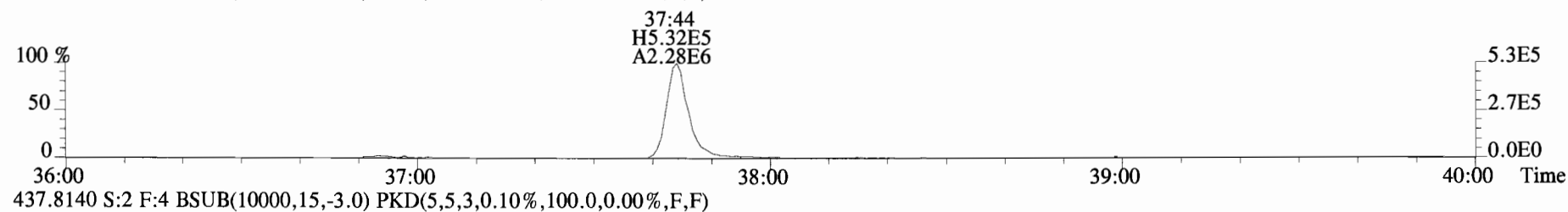
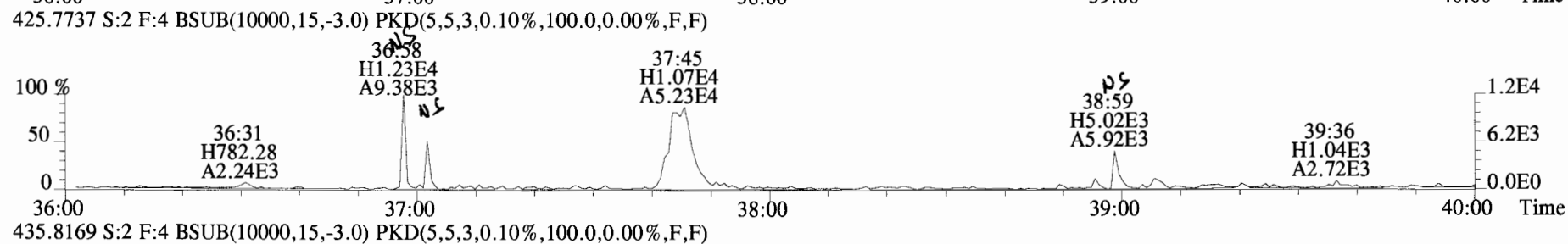
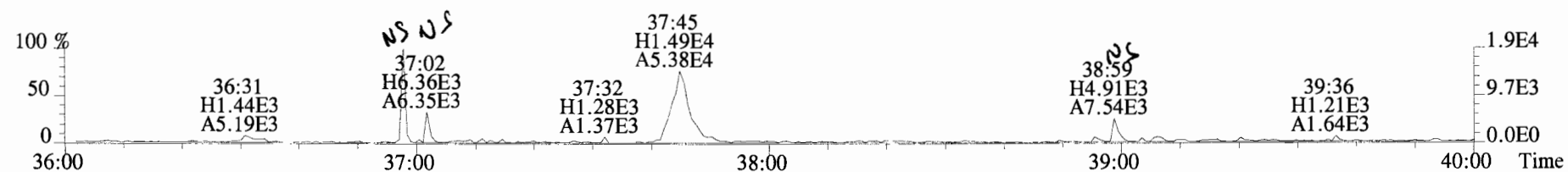
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



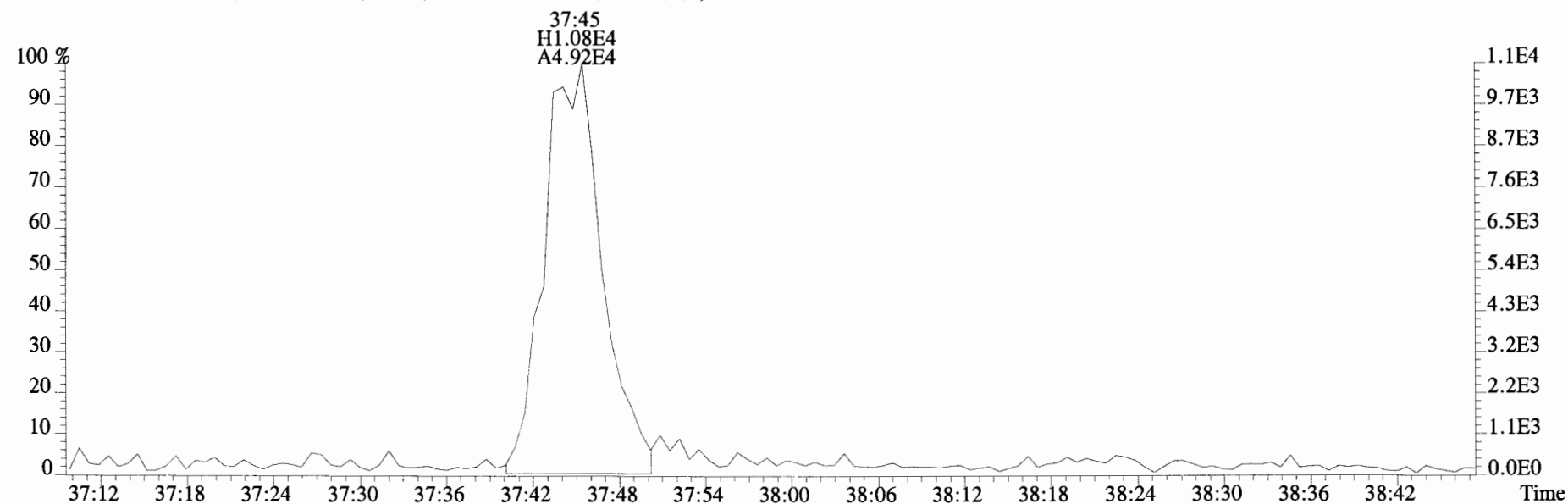
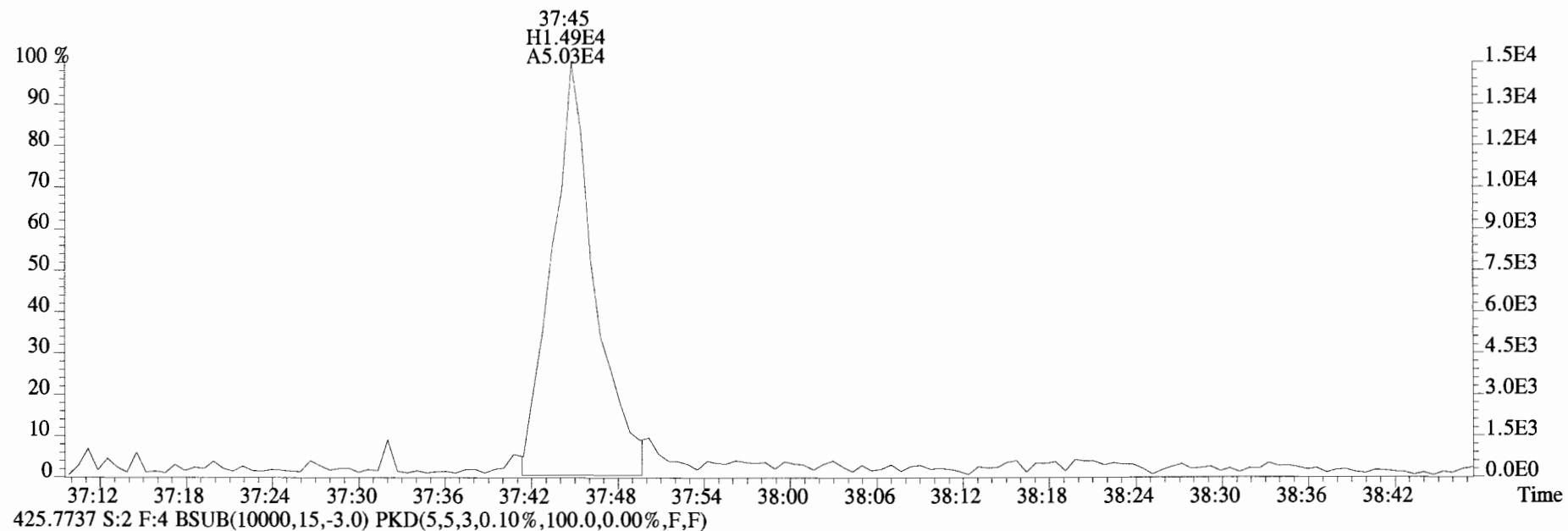
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



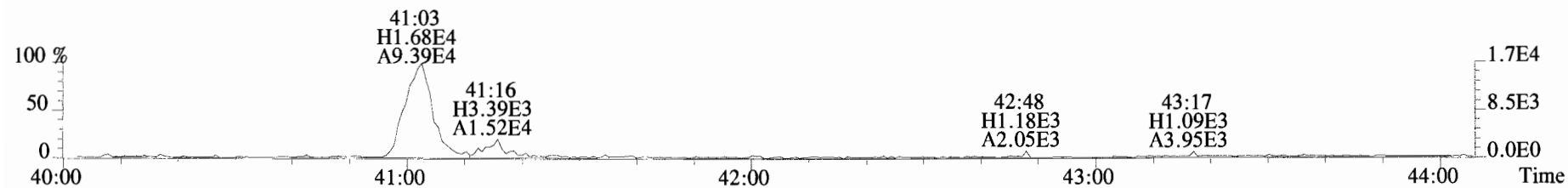
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



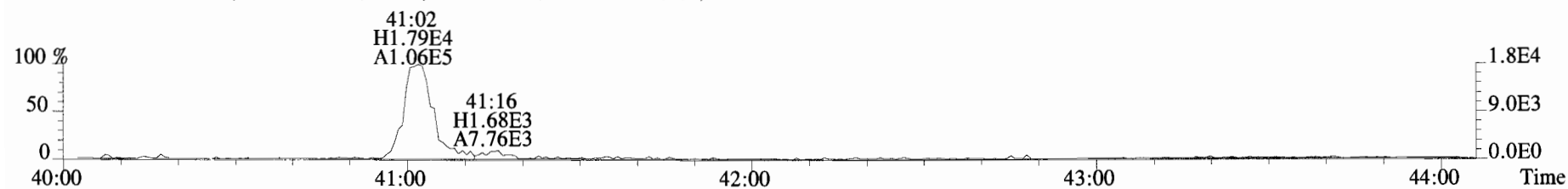
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



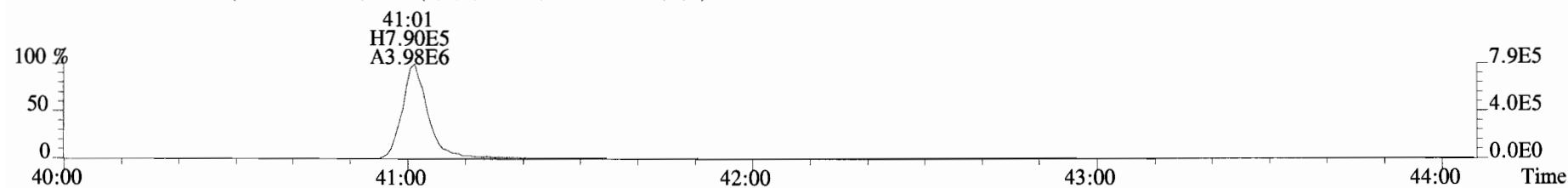
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



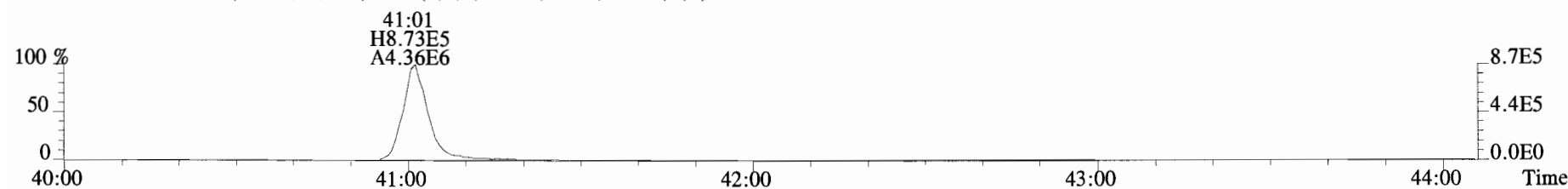
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



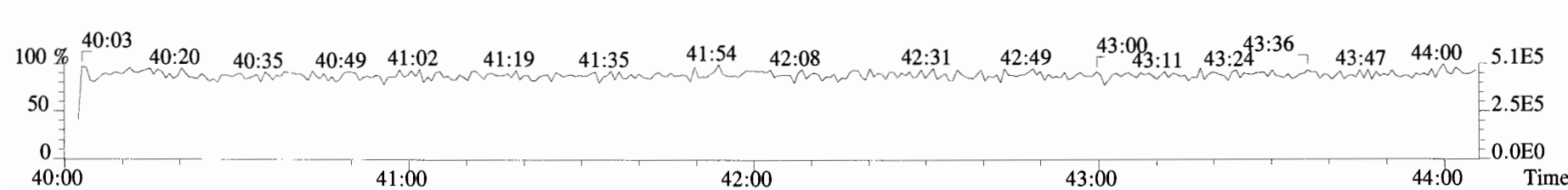
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



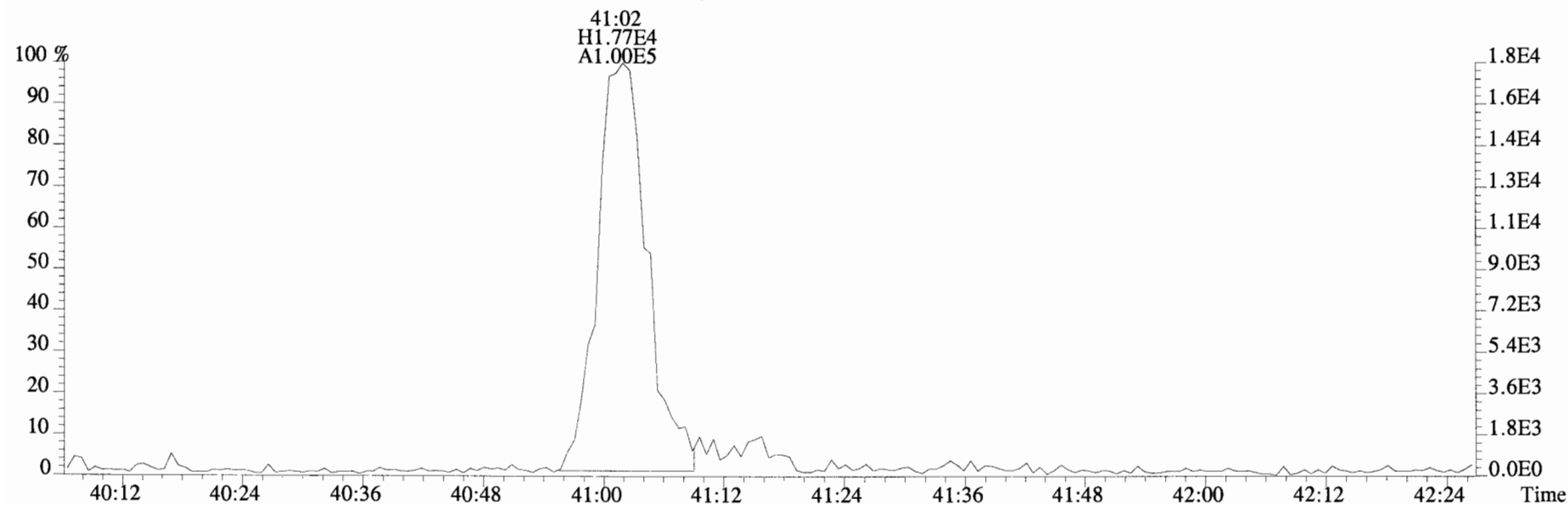
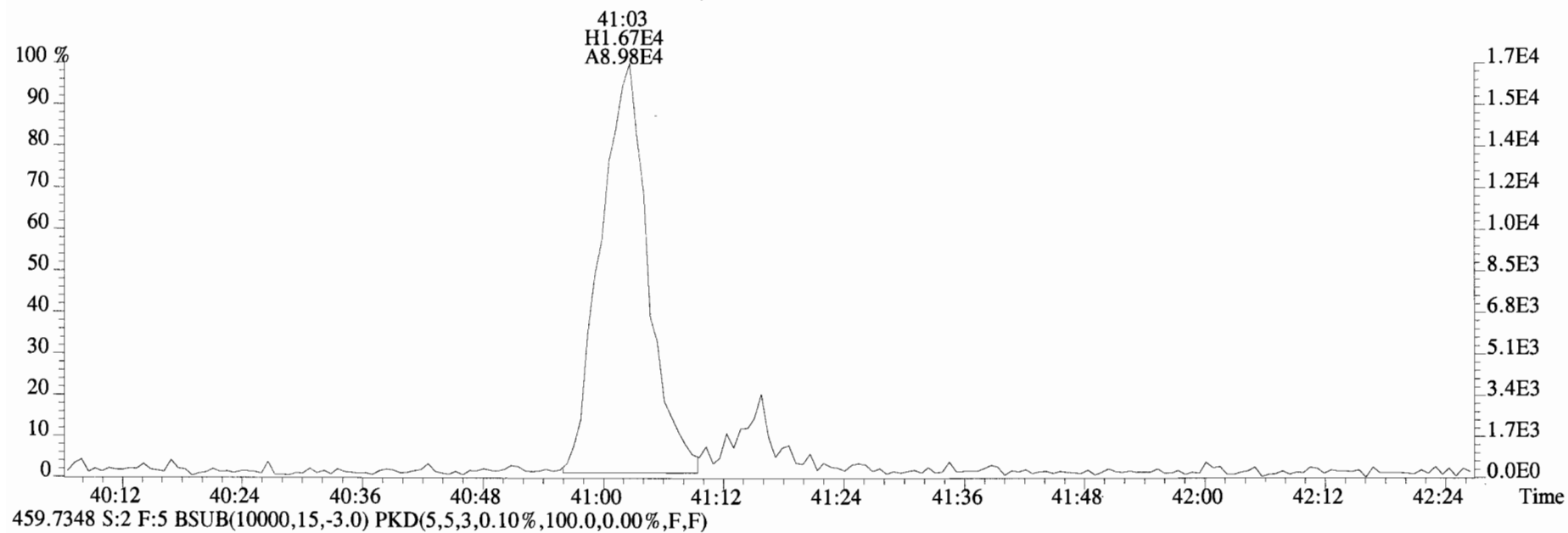
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



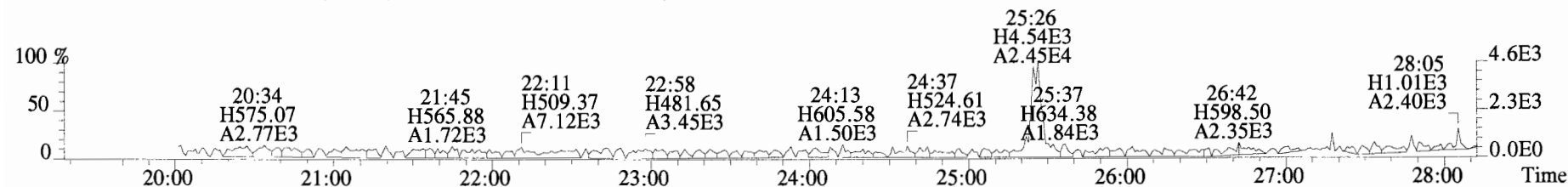
454.9728 S:2 F:5



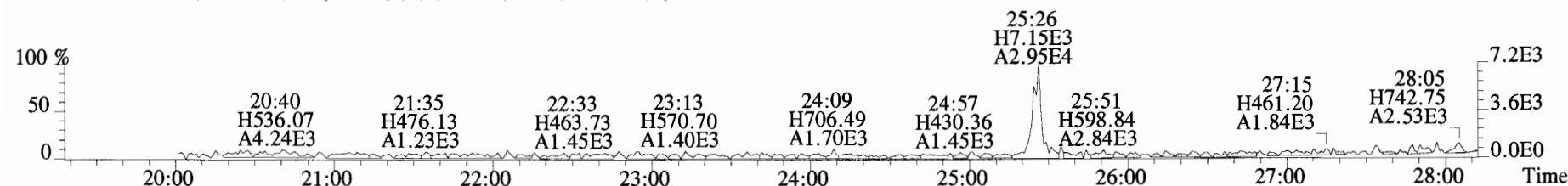
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



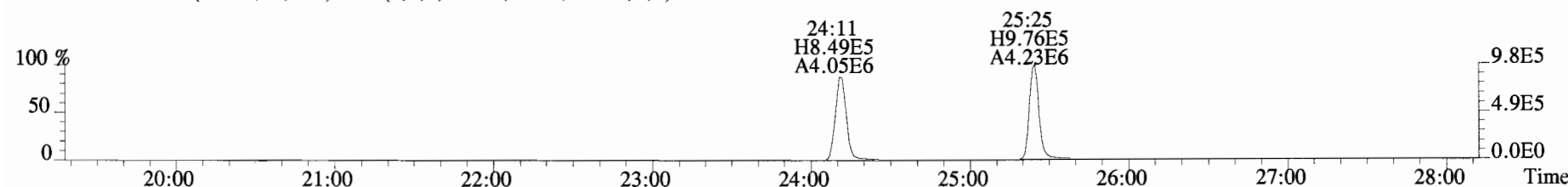
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



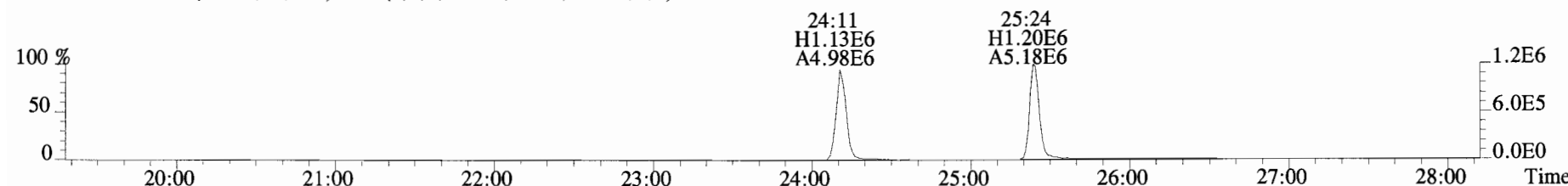
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



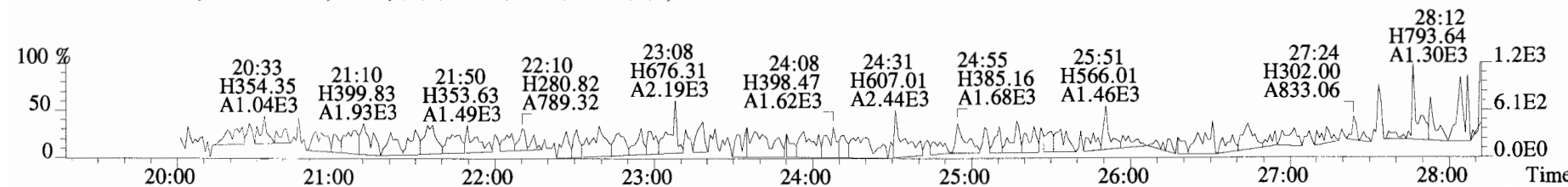
315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



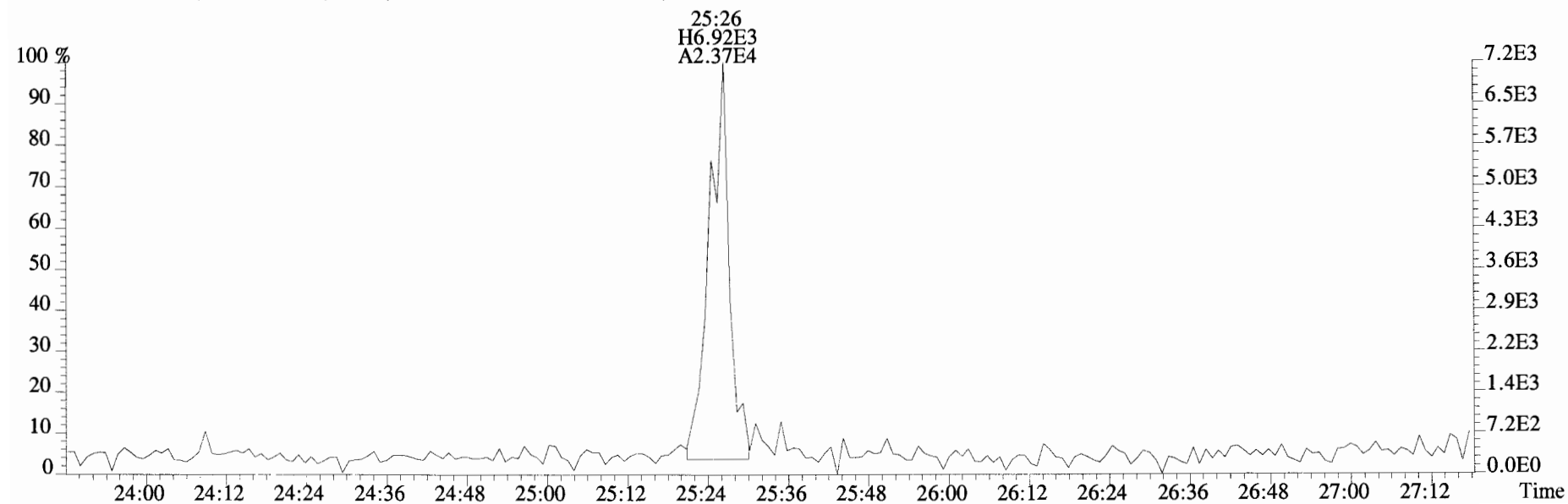
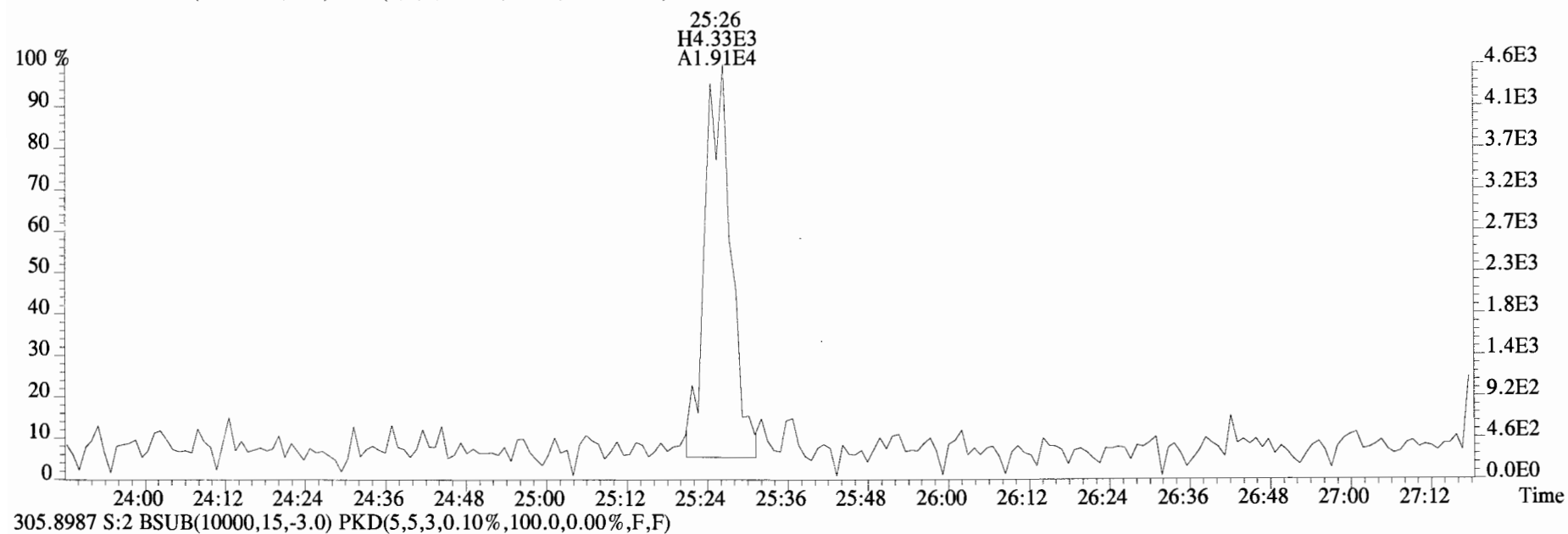
317.9389 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



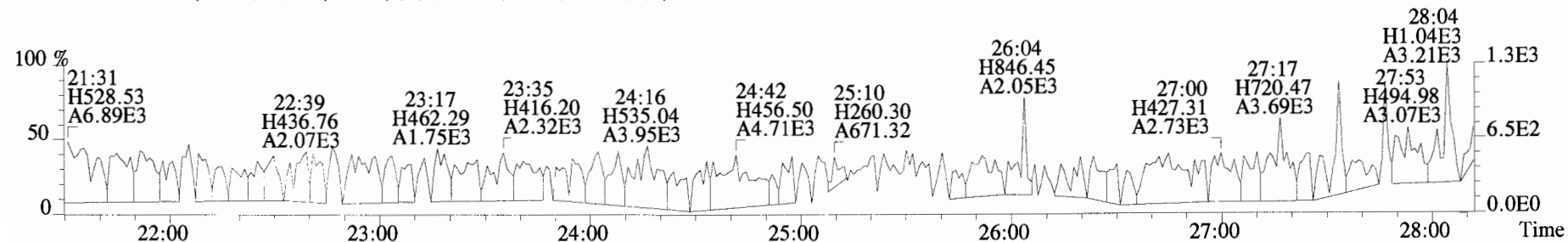
375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



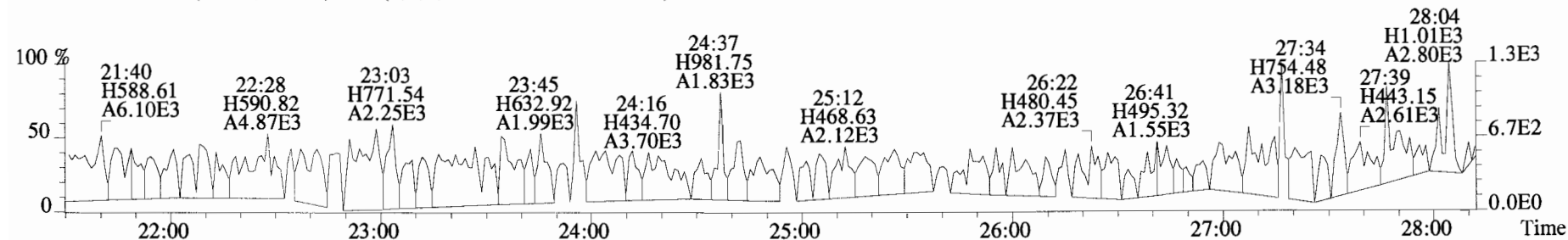
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



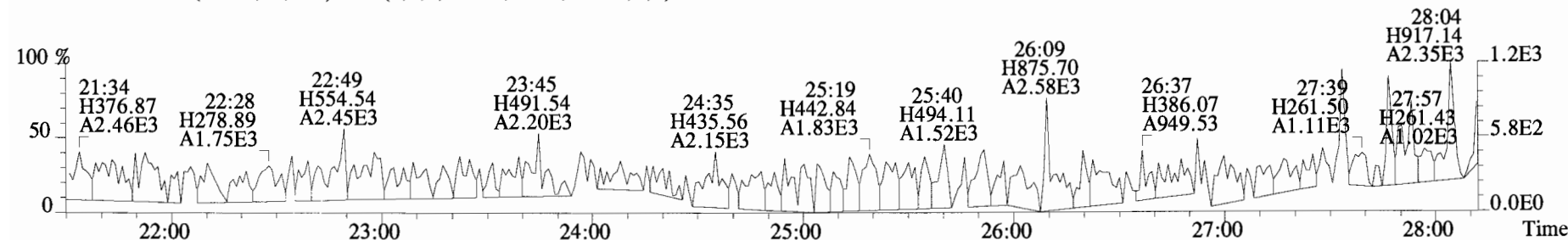
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



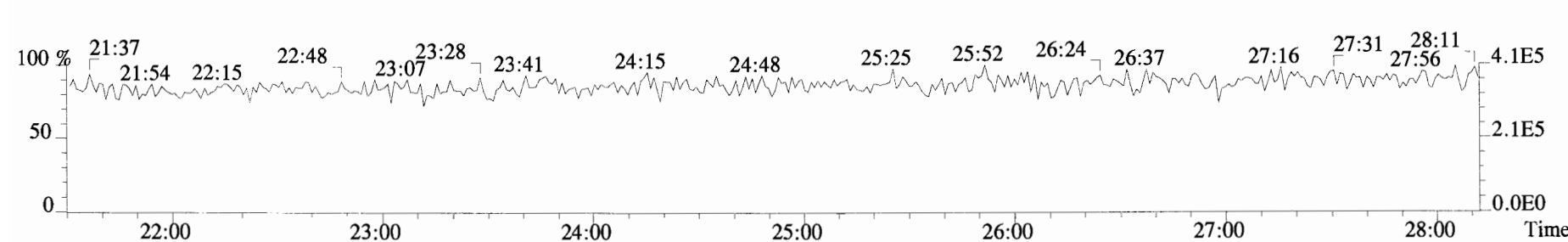
341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



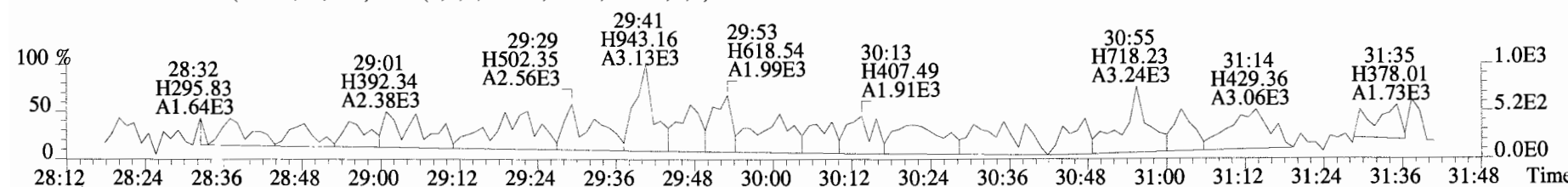
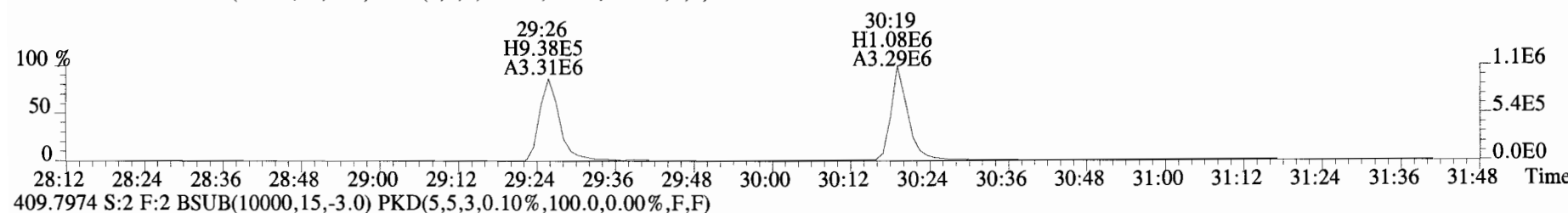
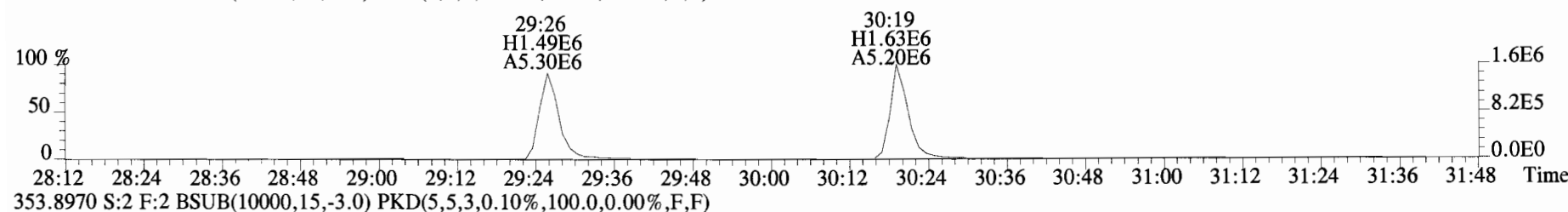
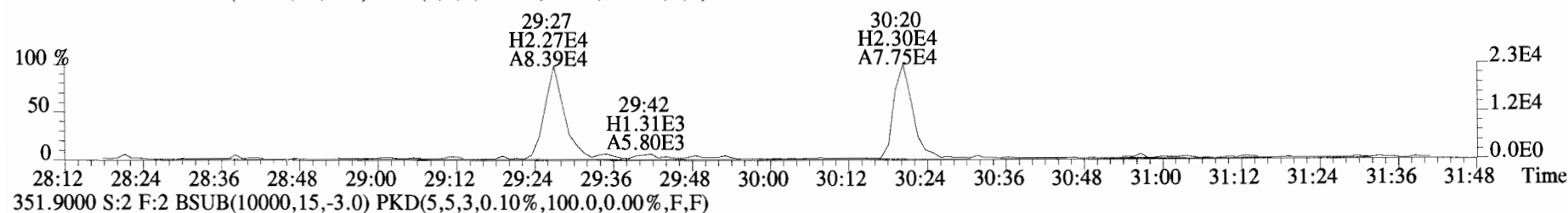
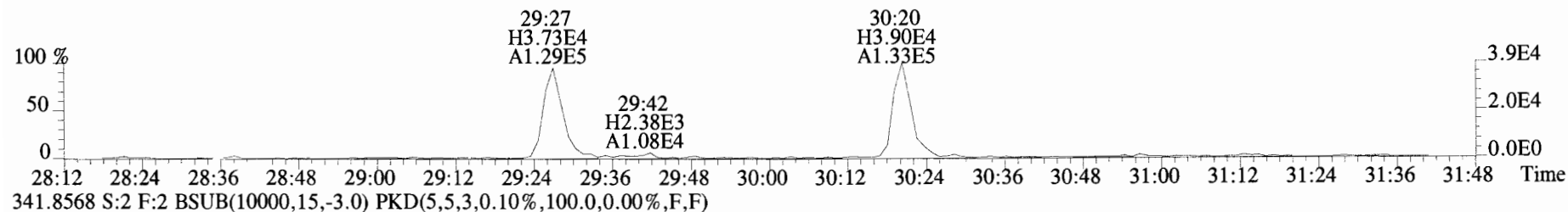
409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



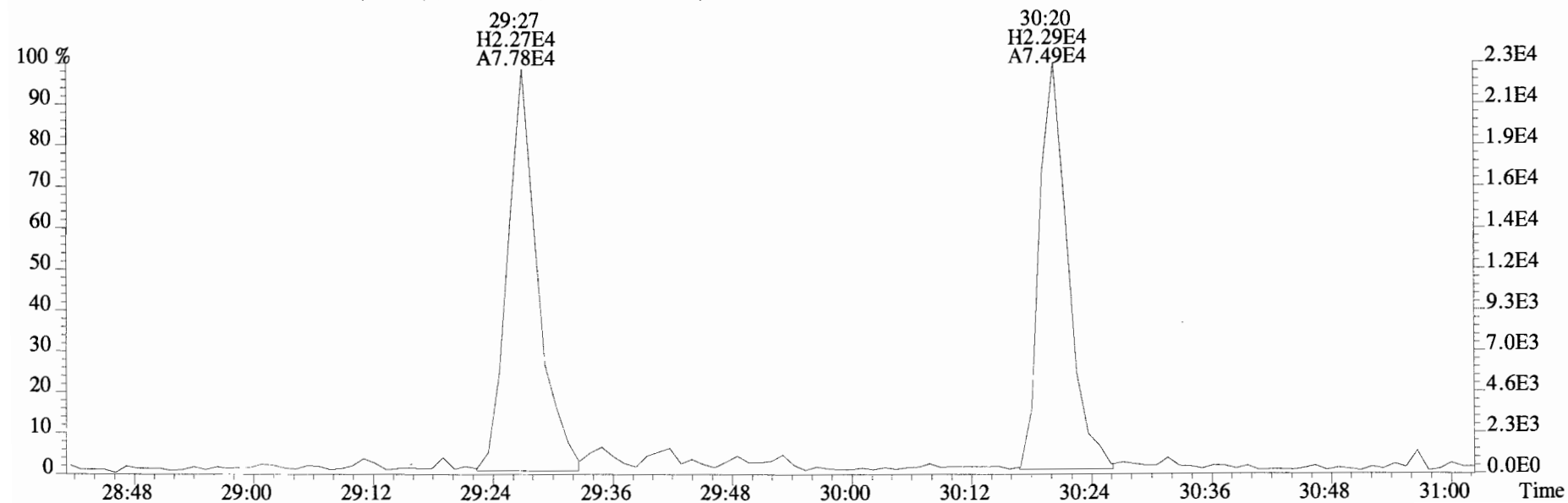
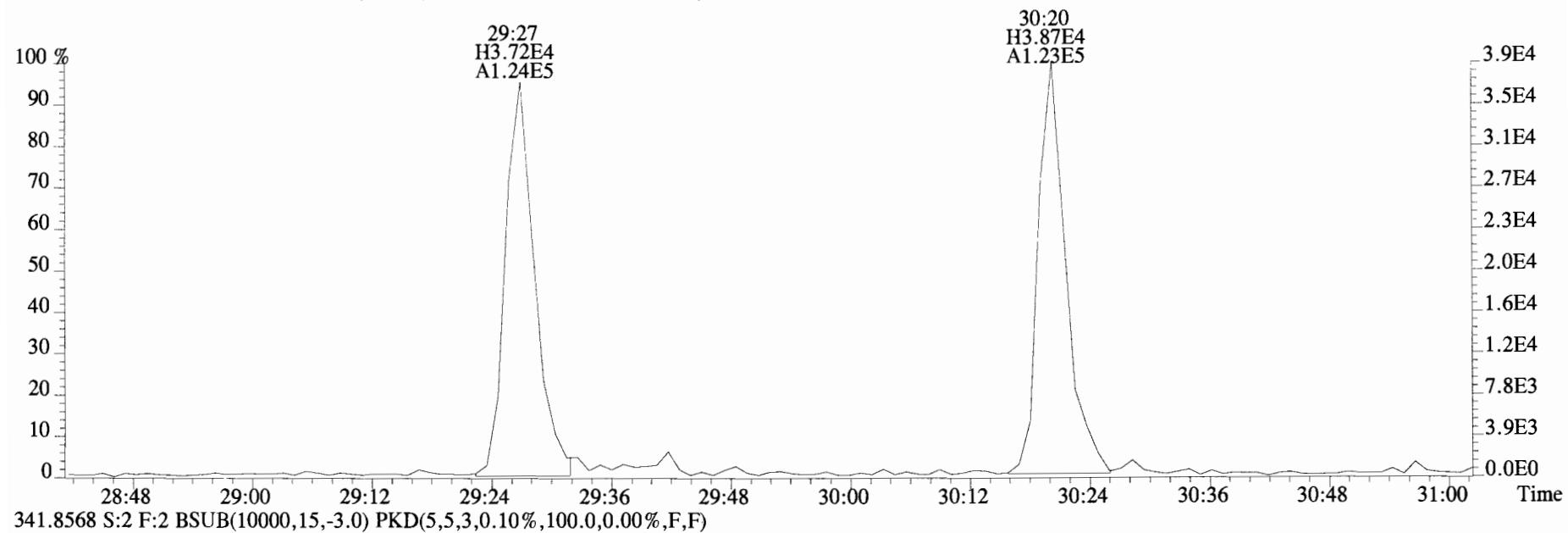
316.9824 S:2



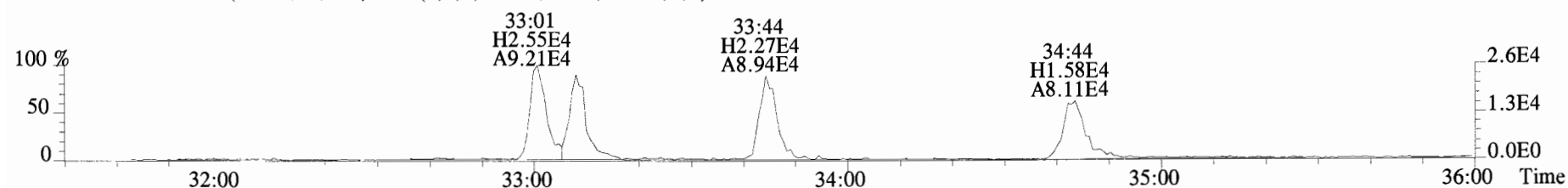
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



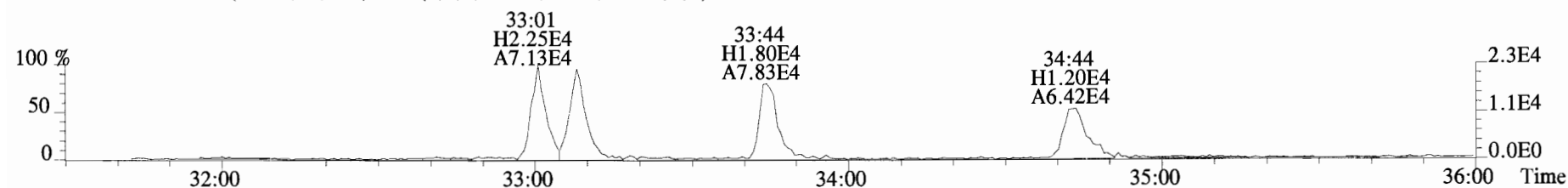
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



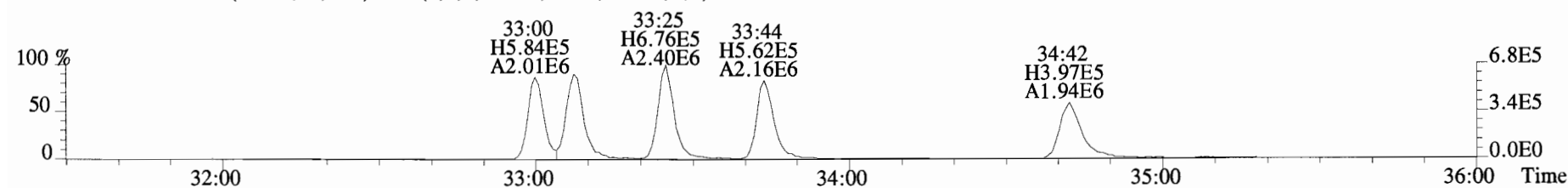
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



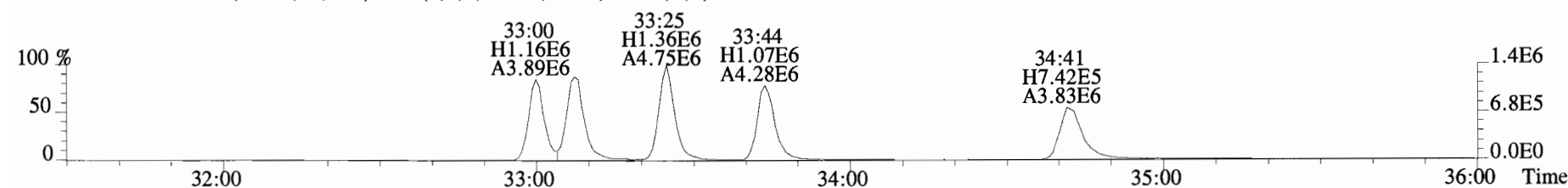
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



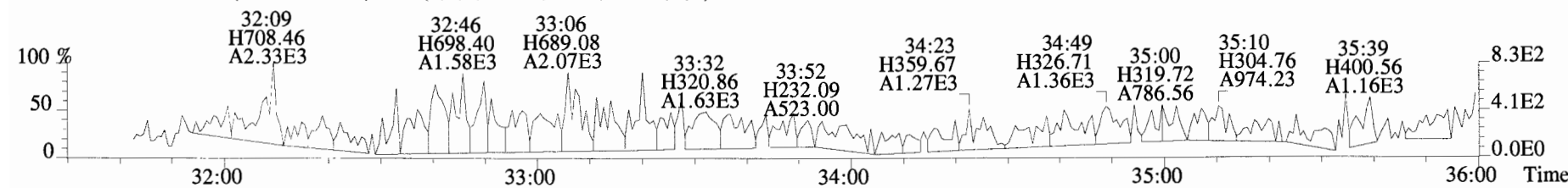
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



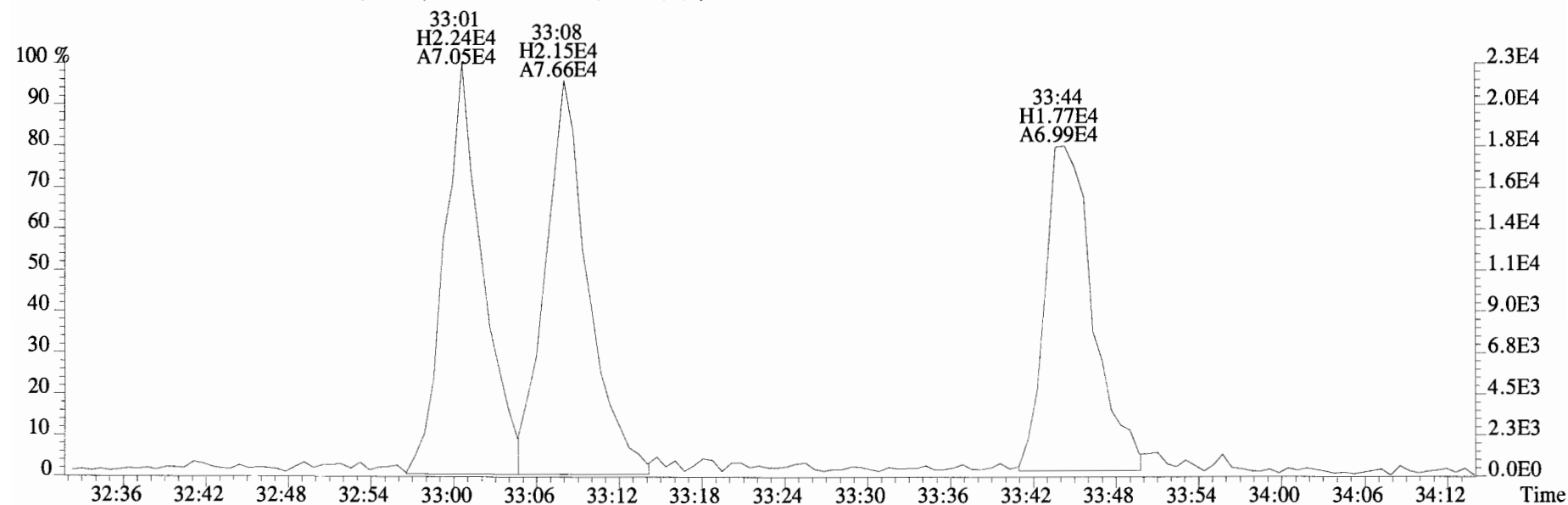
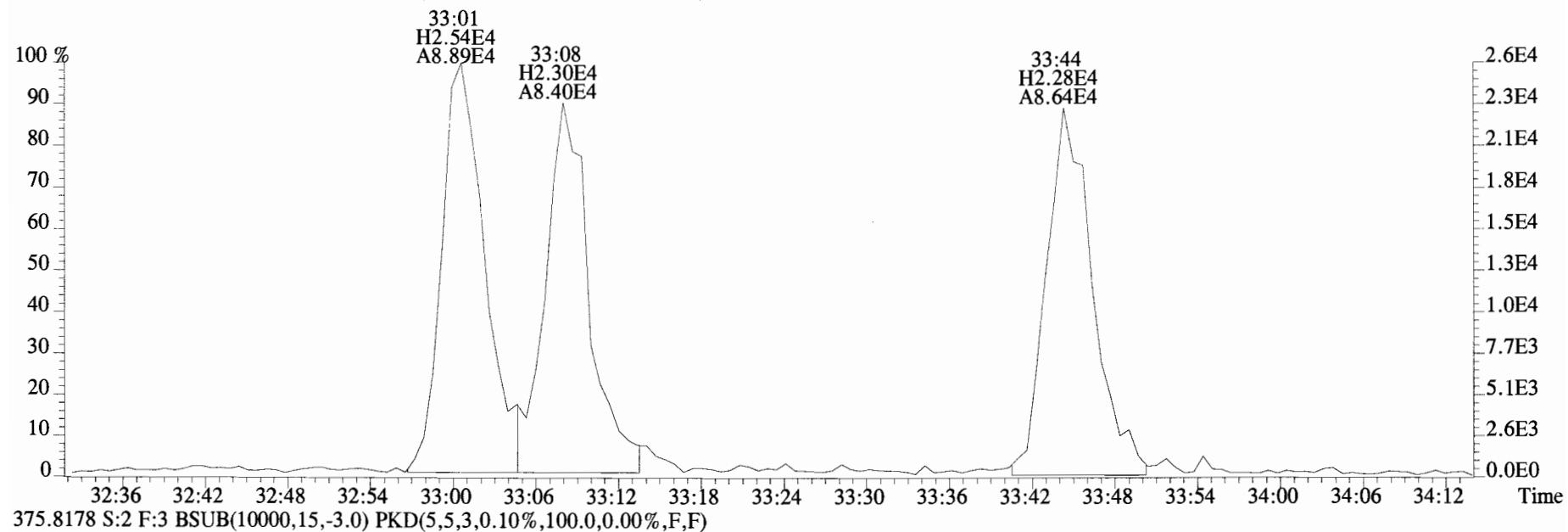
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



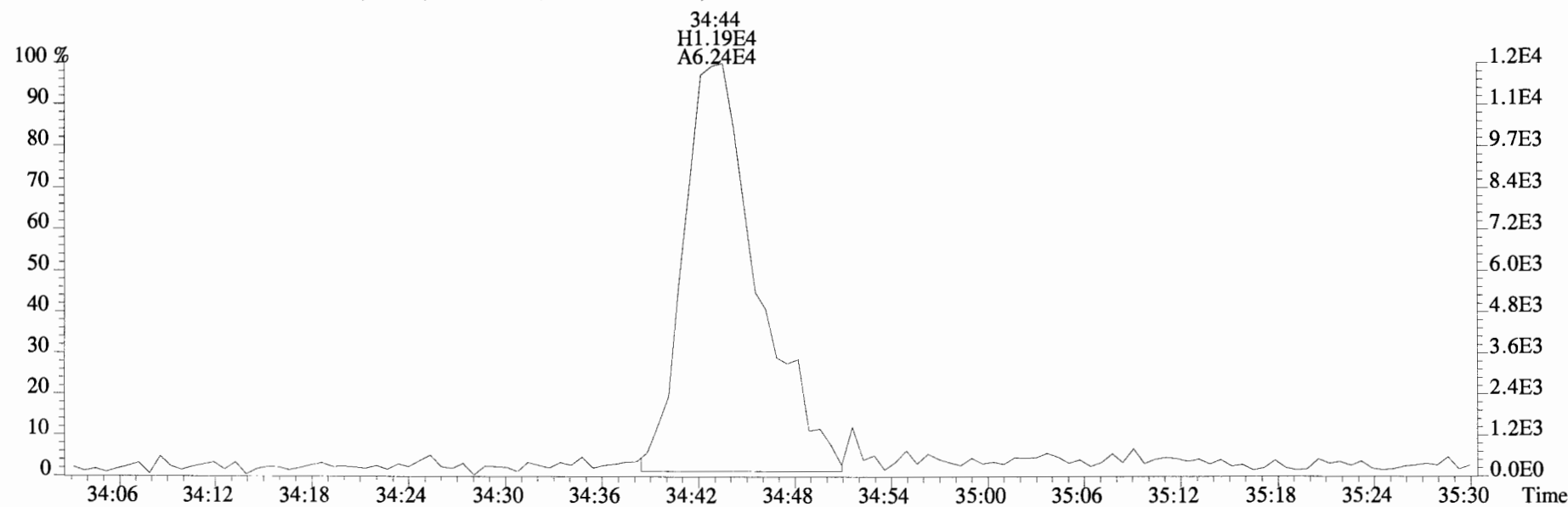
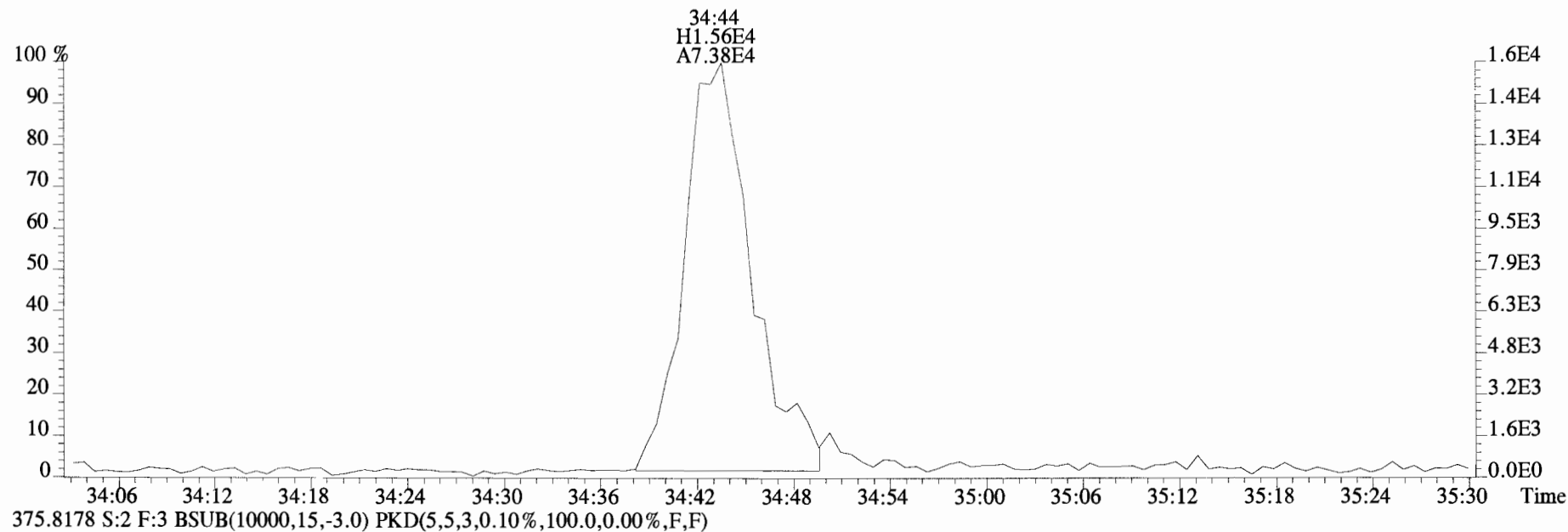
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



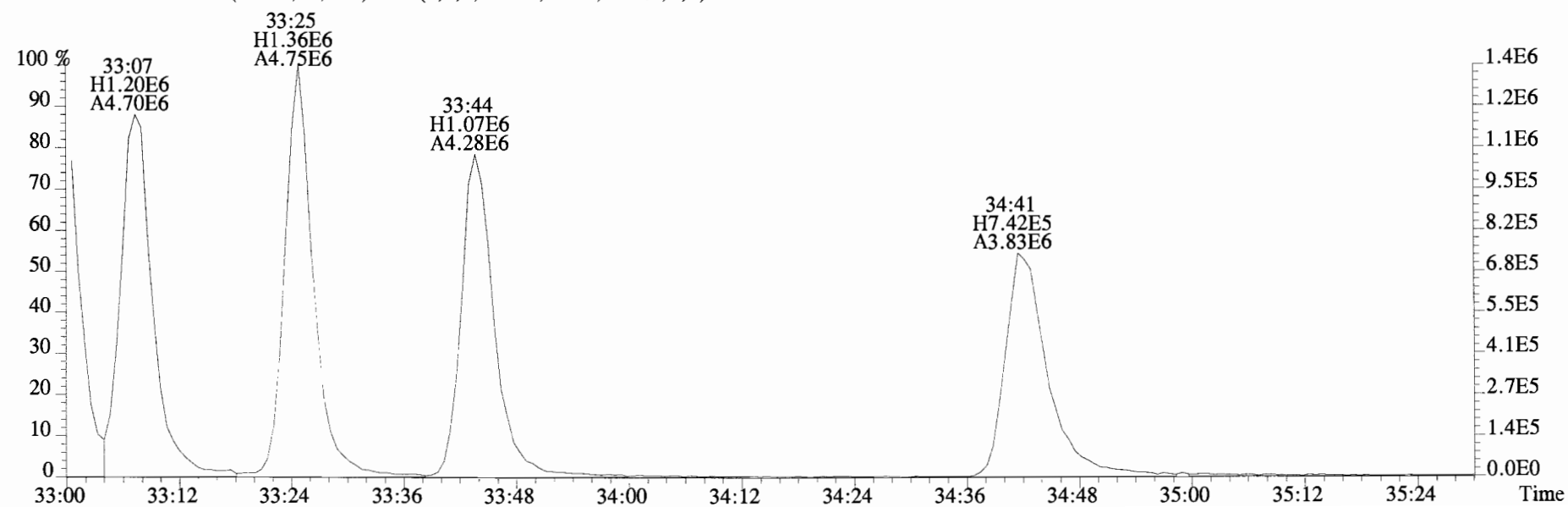
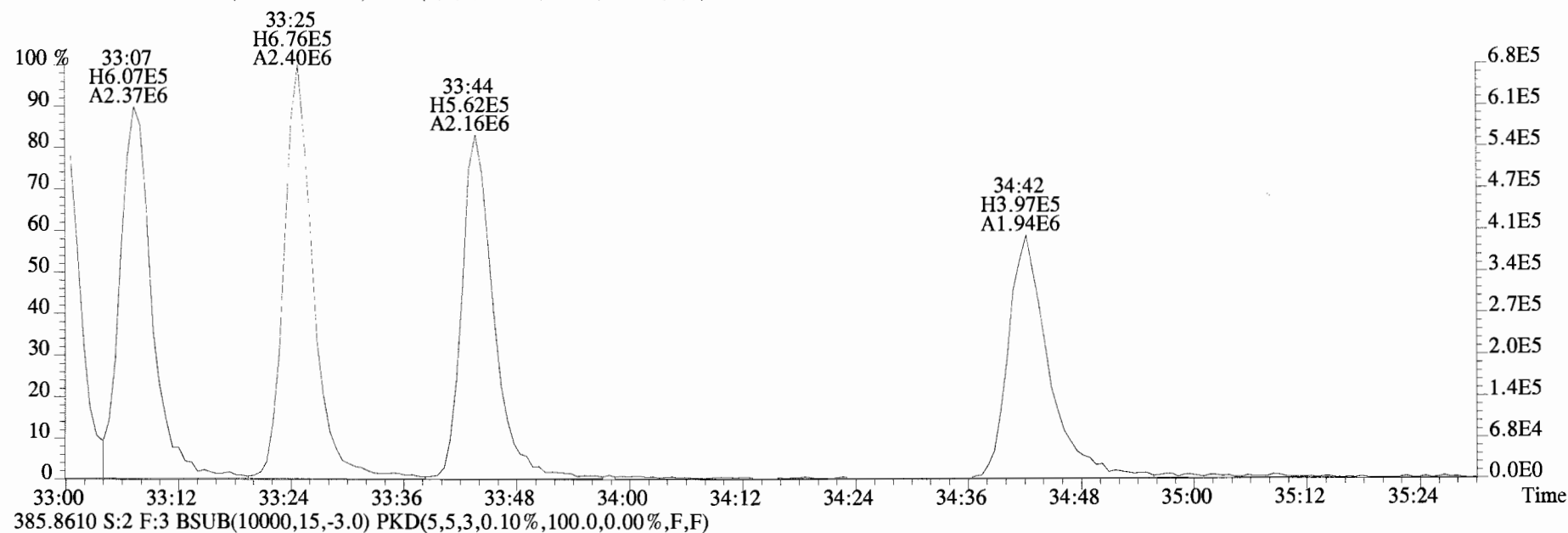
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



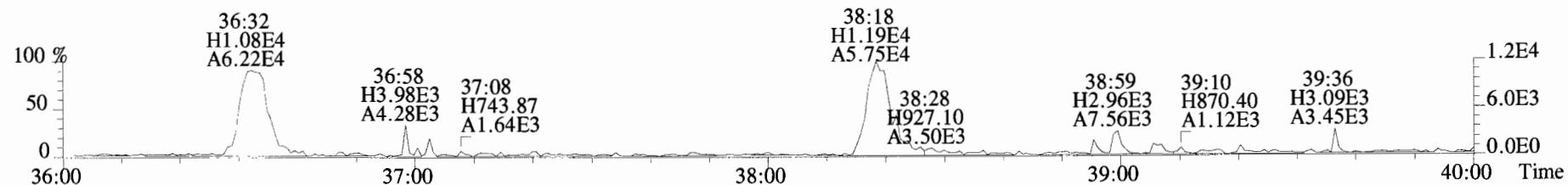
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



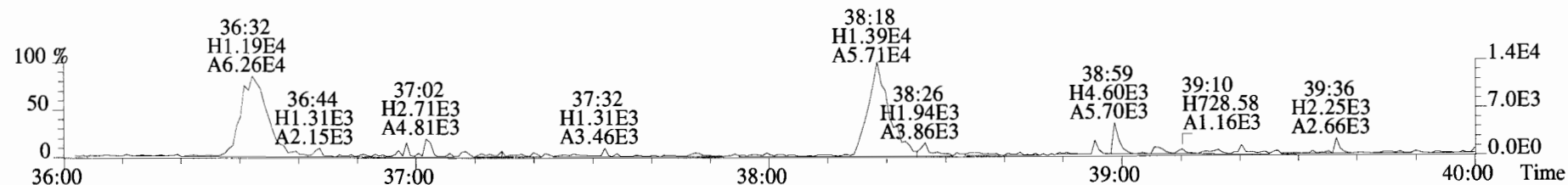
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



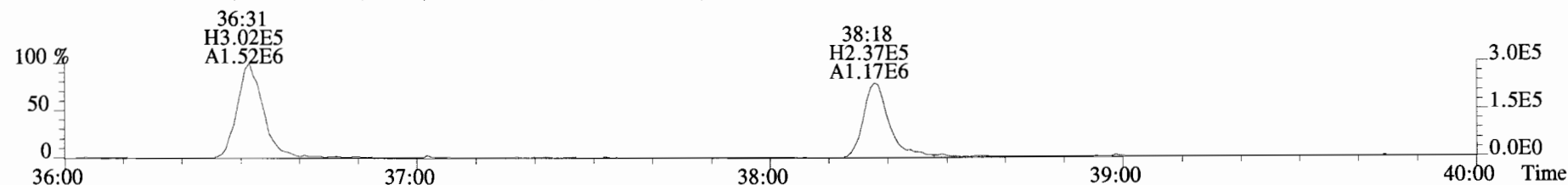
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



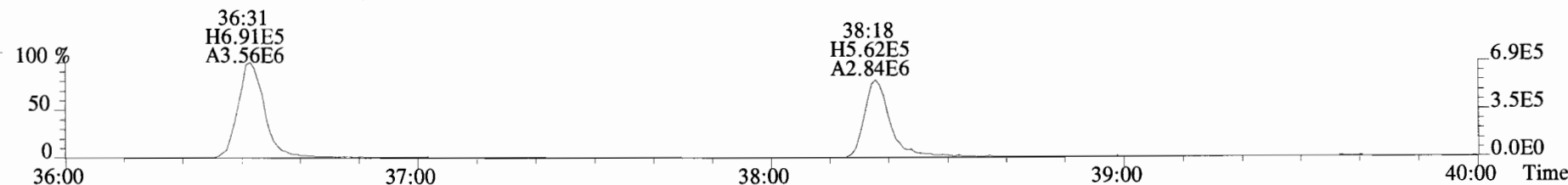
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



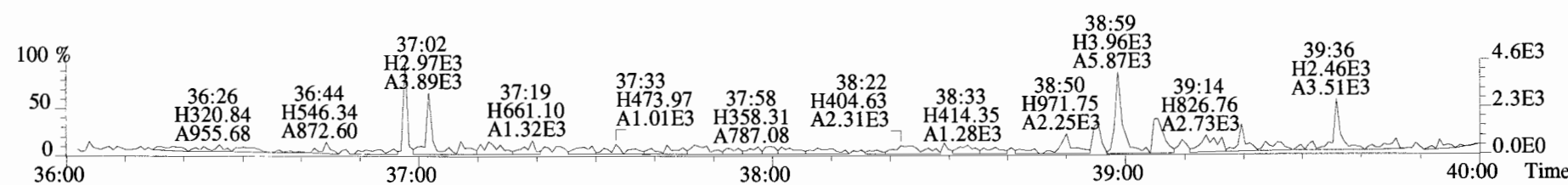
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



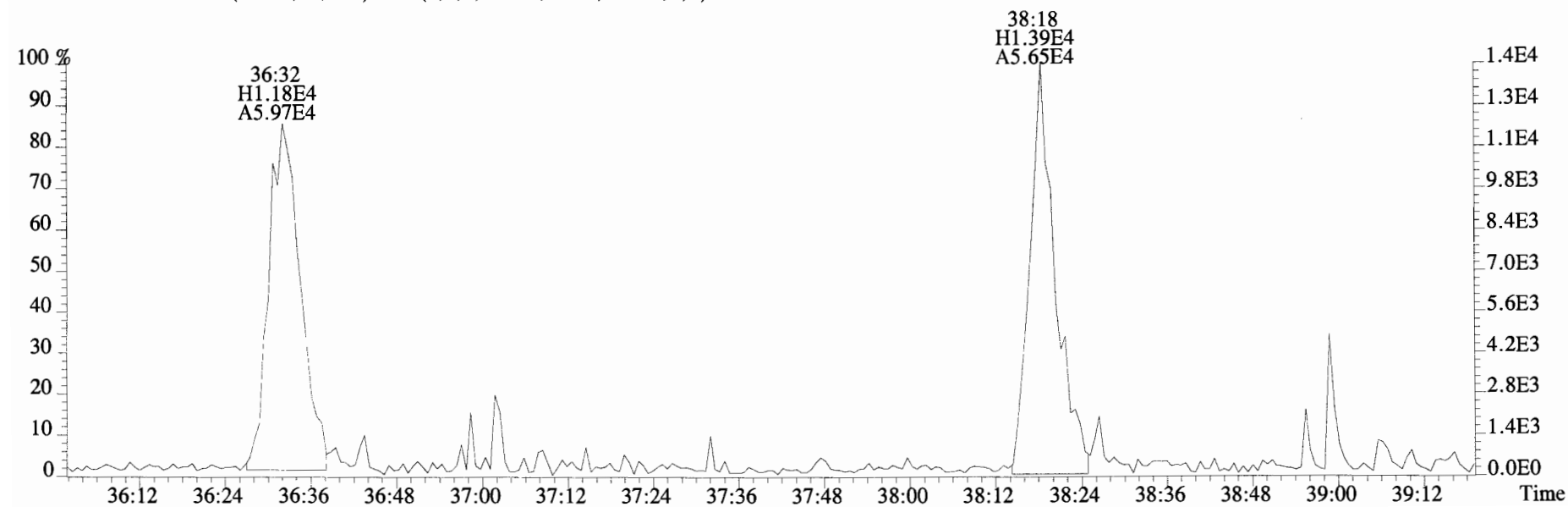
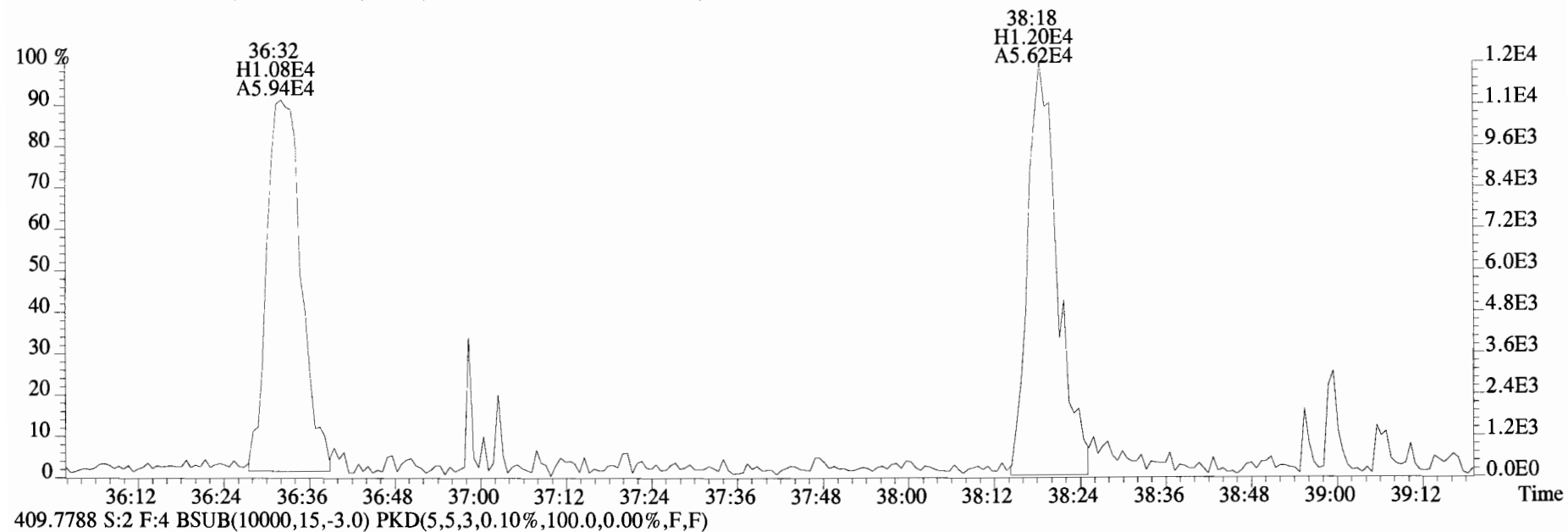
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



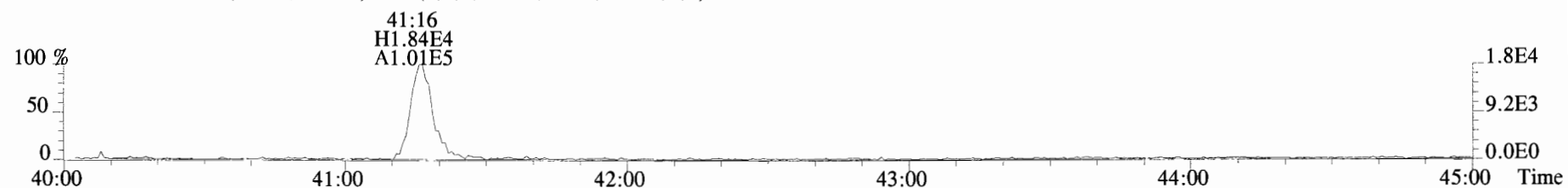
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



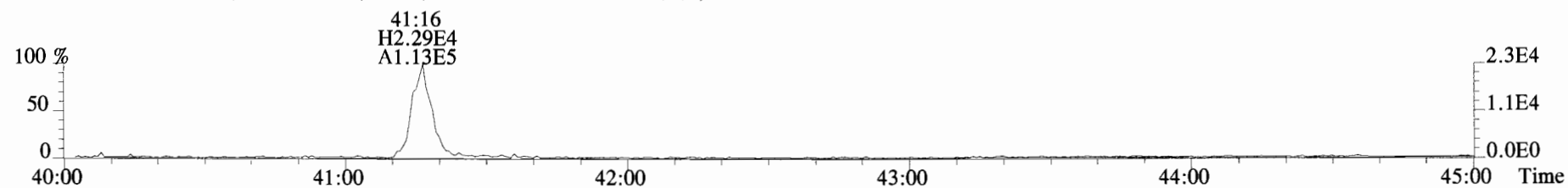
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
407.7818 S:2 F:4 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



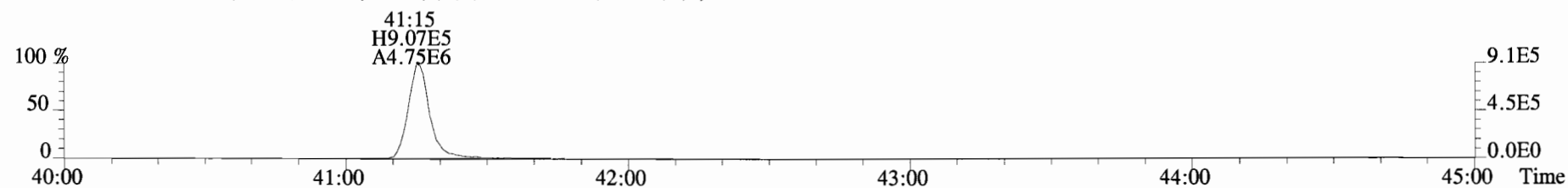
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



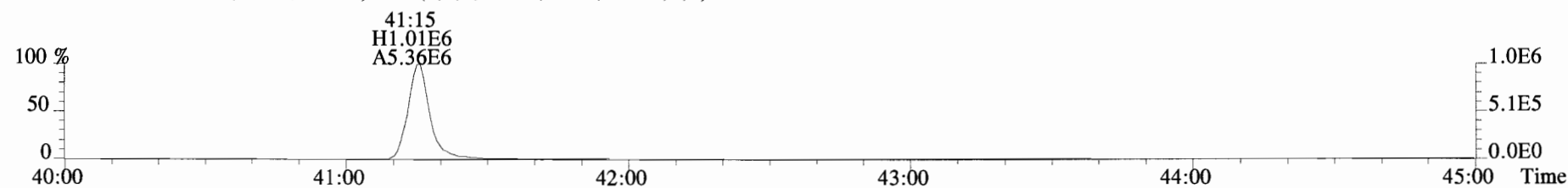
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



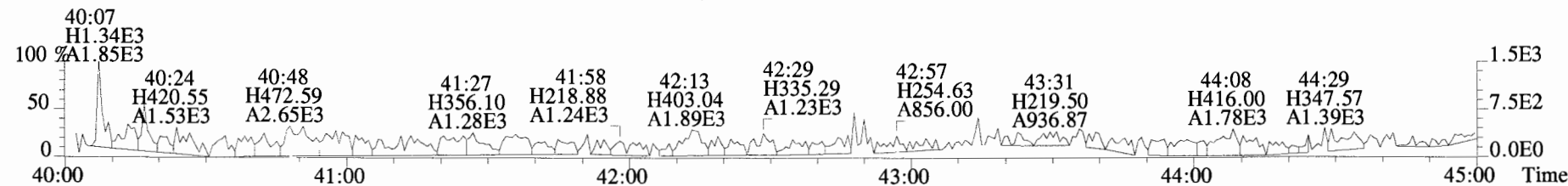
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



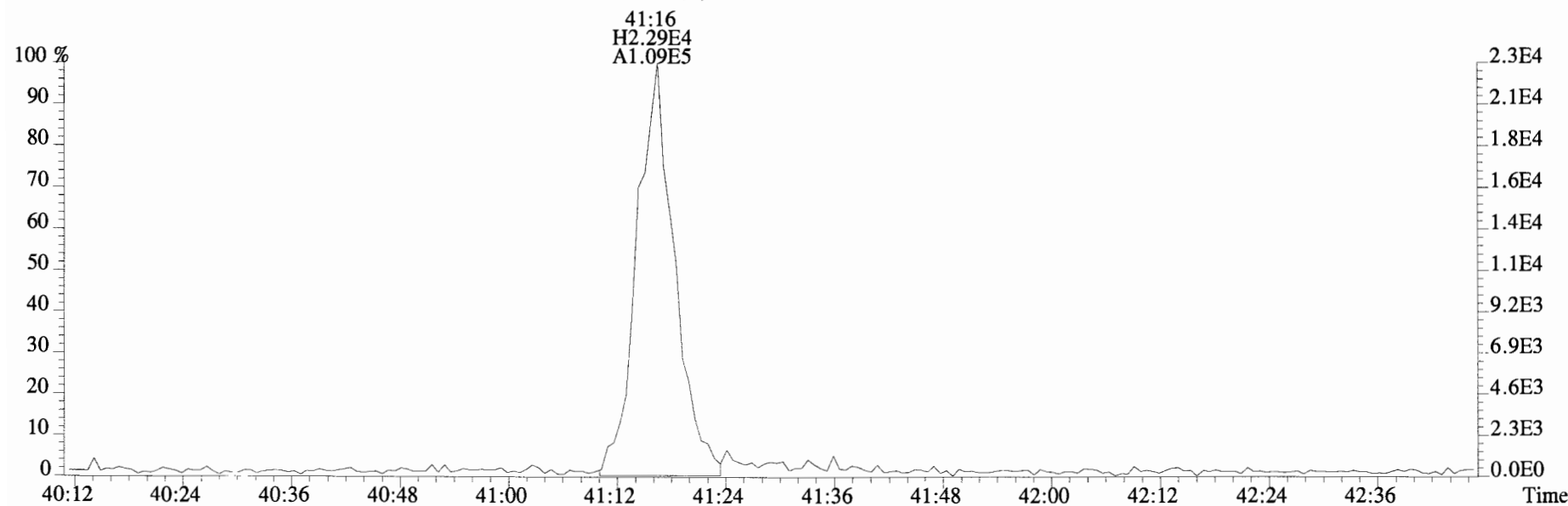
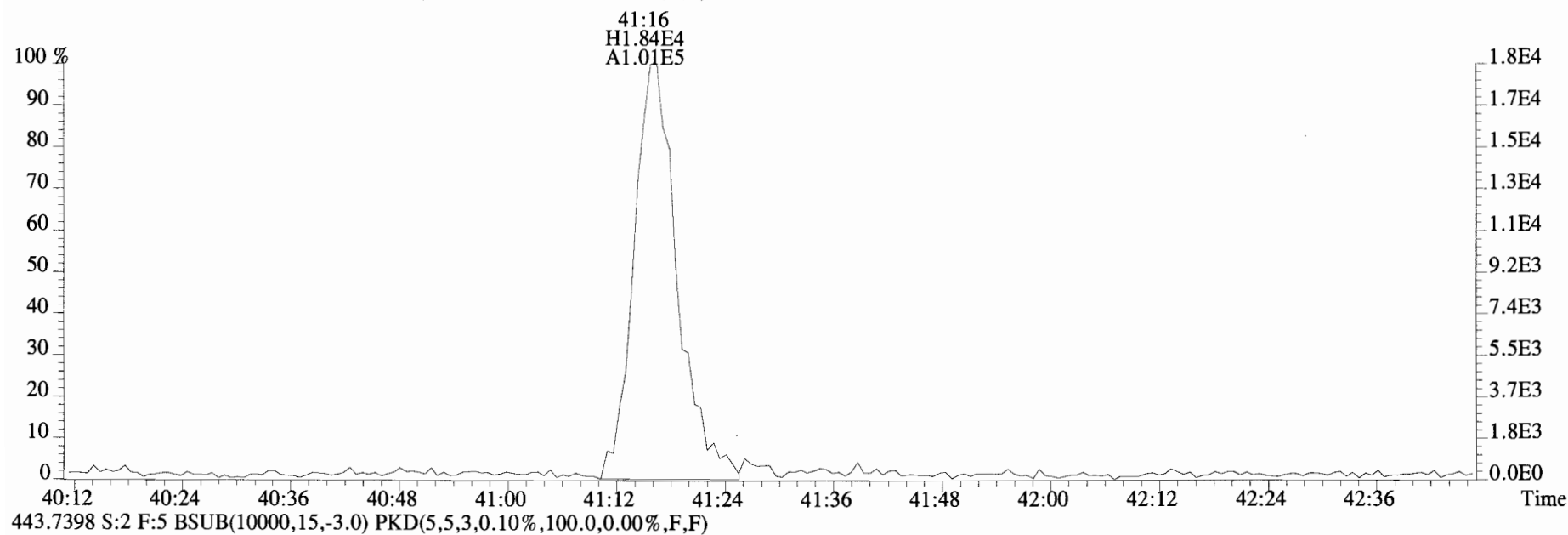
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



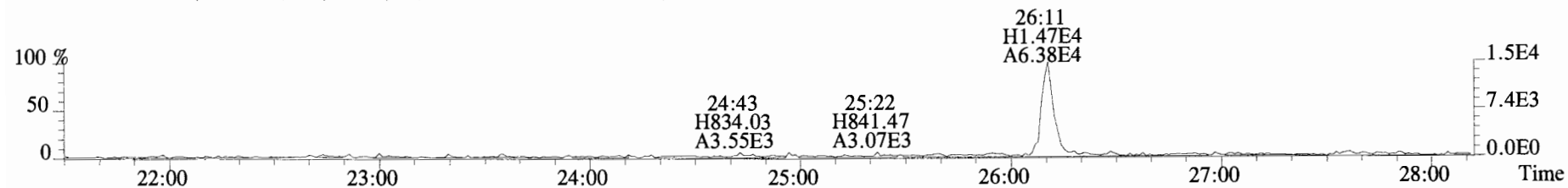
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



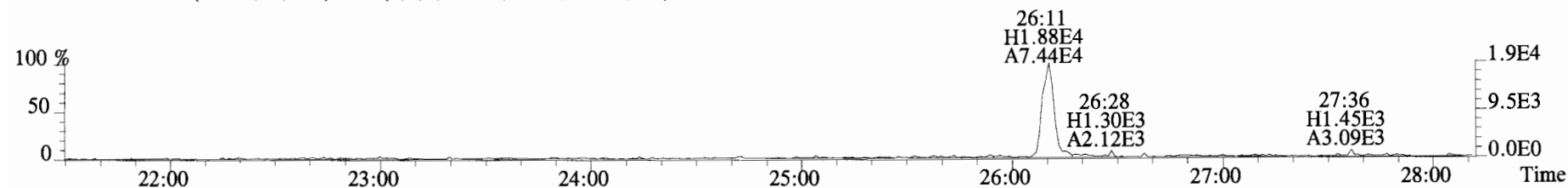
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



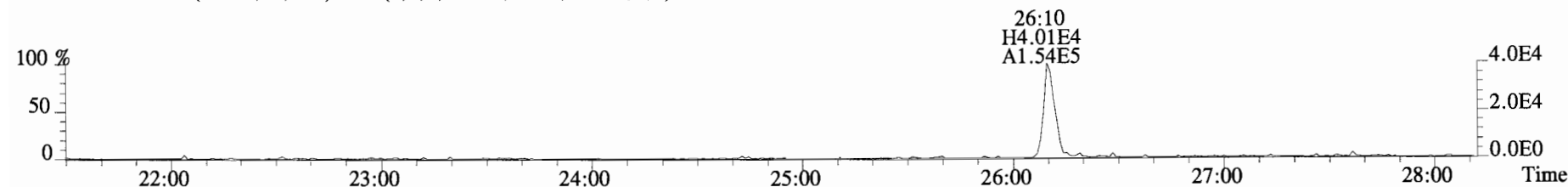
File:190510D2 #1-530 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



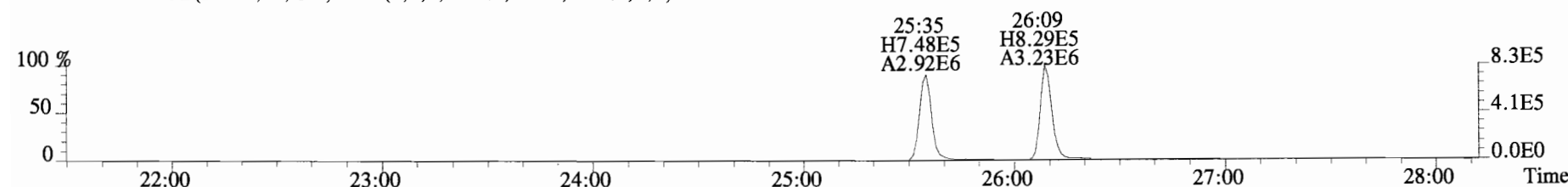
321.8936 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



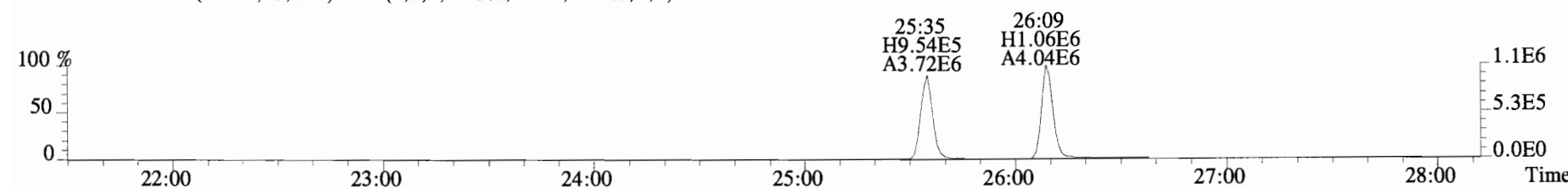
327.8847 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



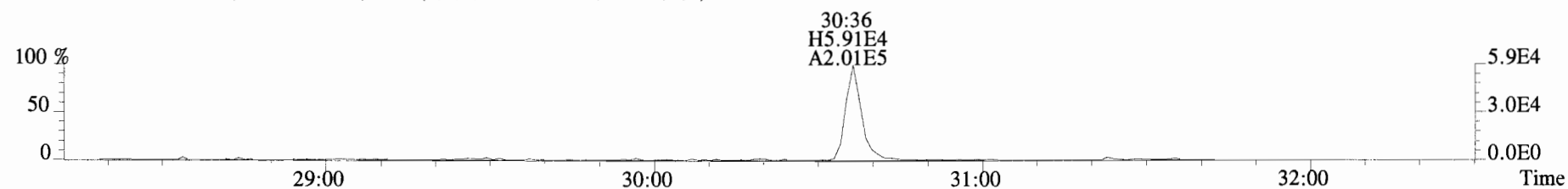
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



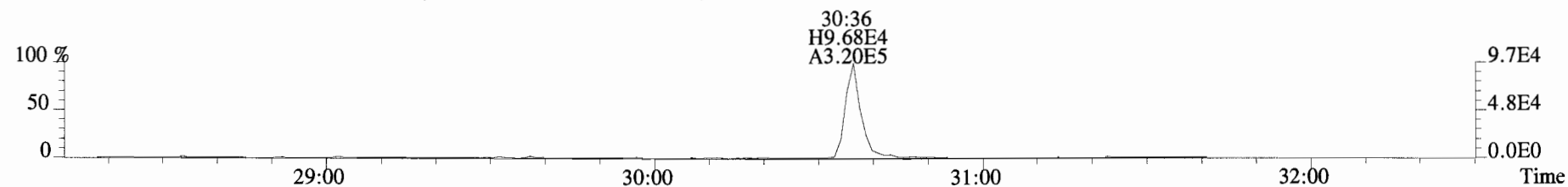
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



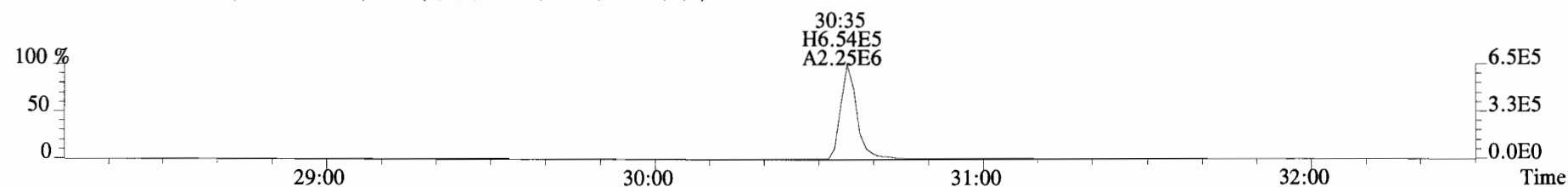
File:190510D2 #1-180 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



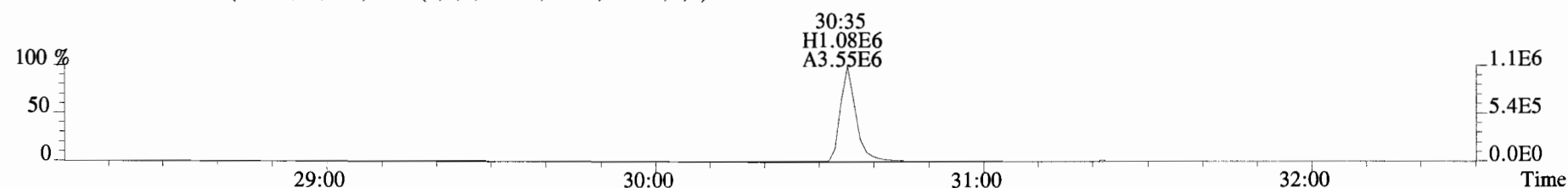
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



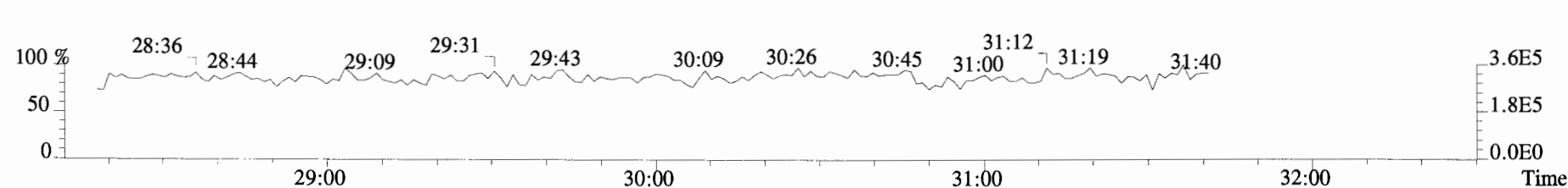
365.8978 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



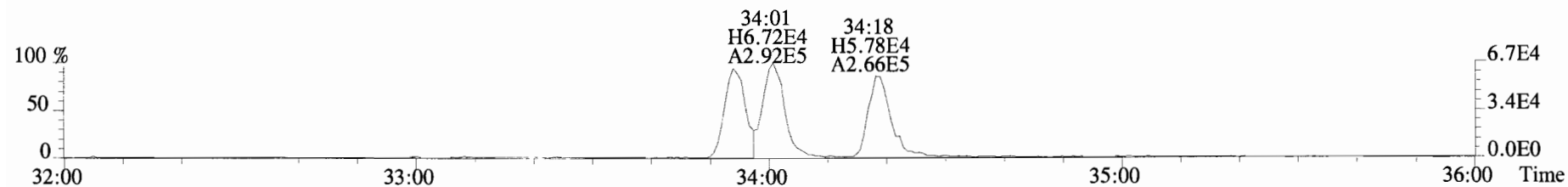
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



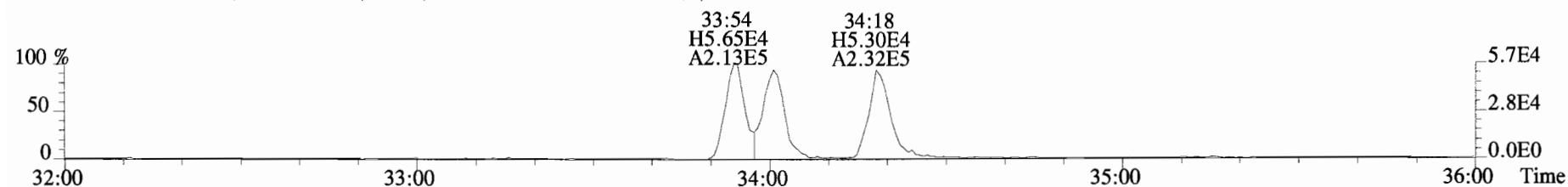
366.9792 S:3 F:2



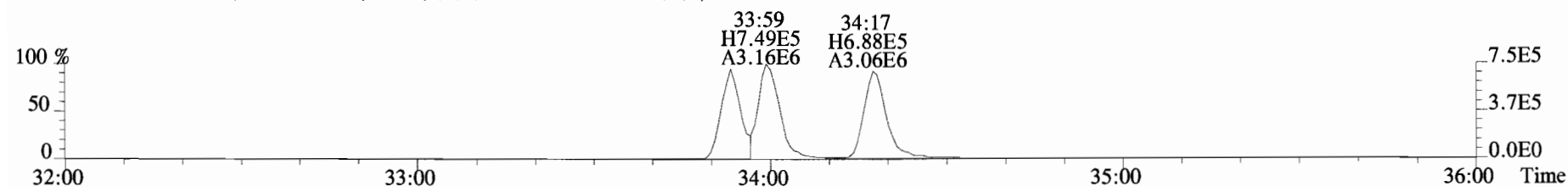
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



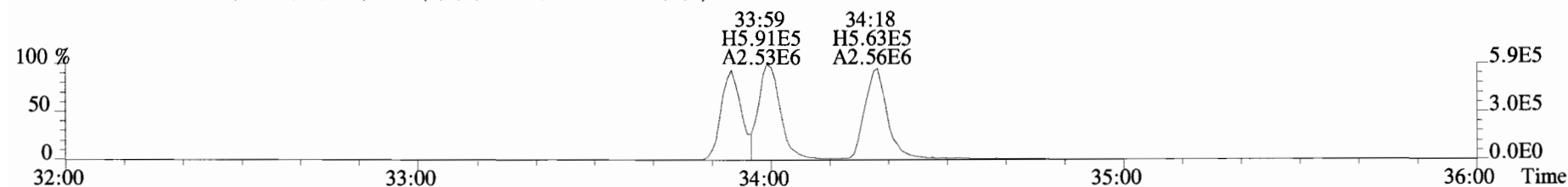
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



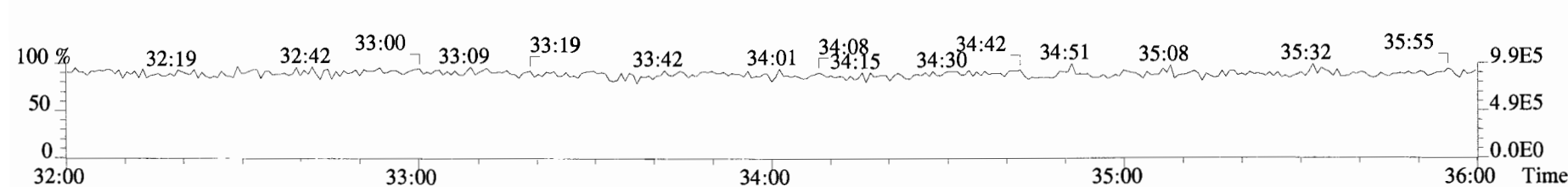
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



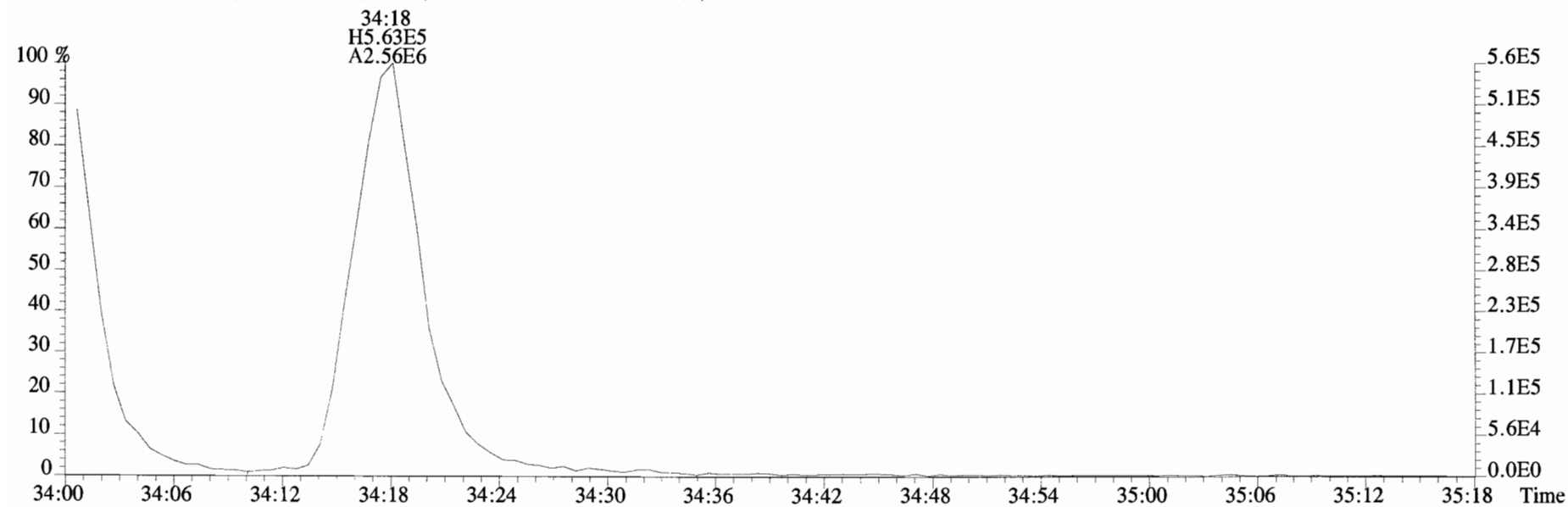
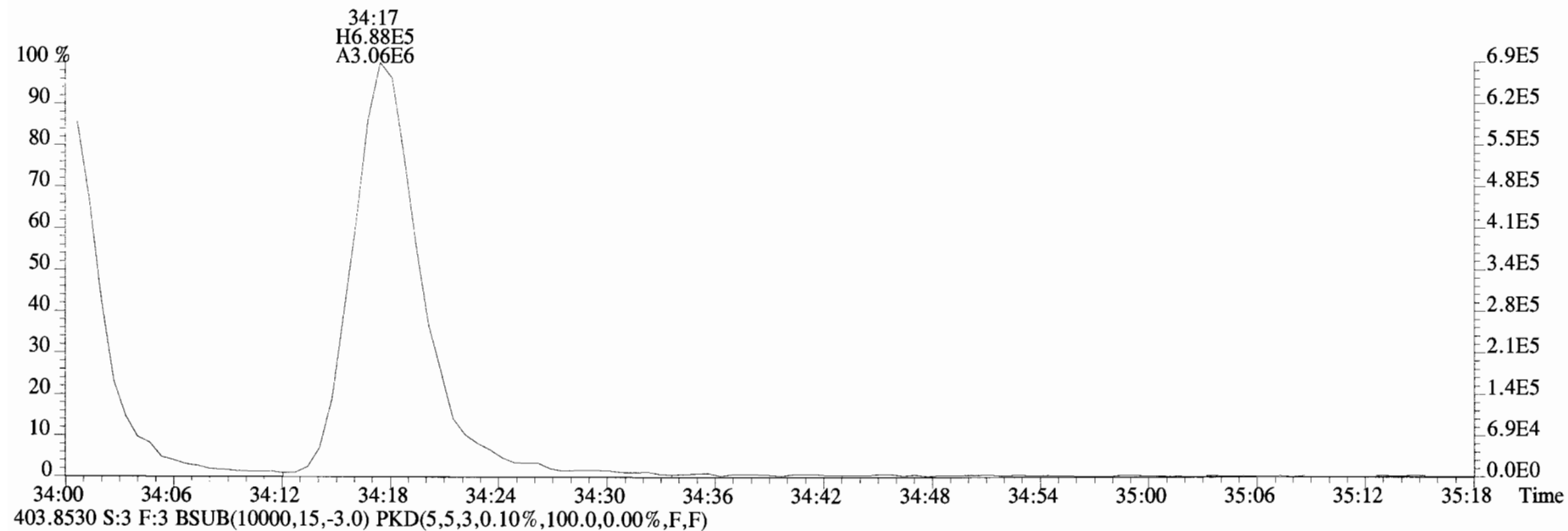
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



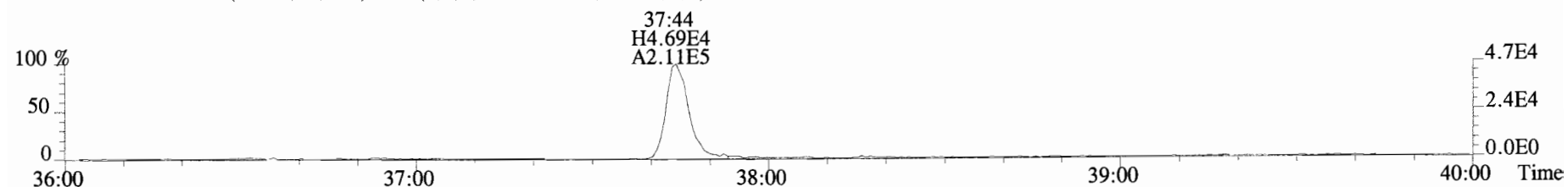
392.9760 S:3 F:3



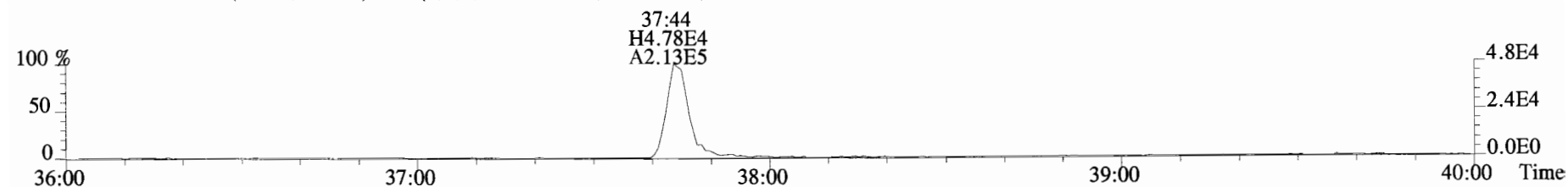
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



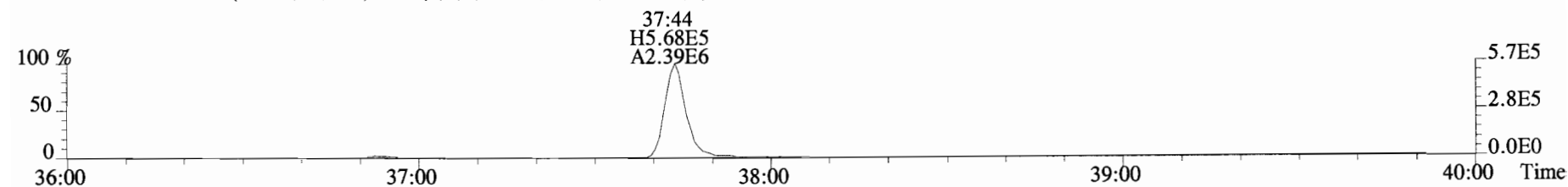
File:190510D2 #1-355 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



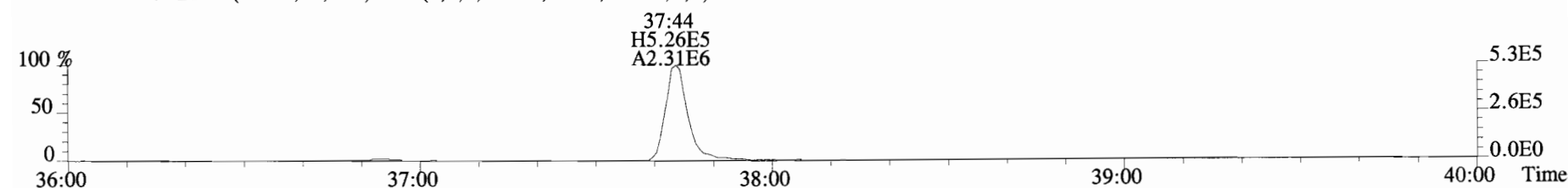
425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



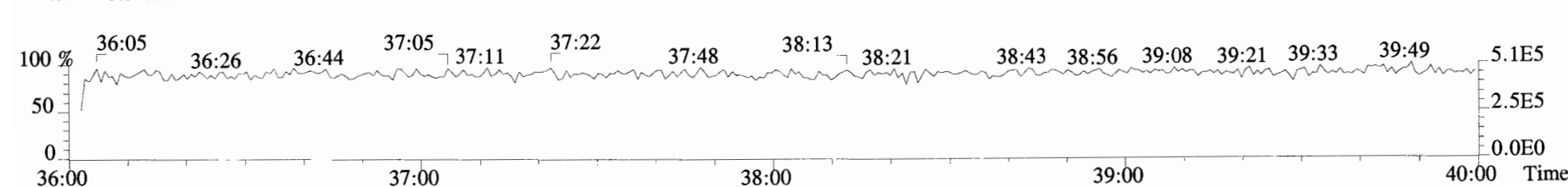
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



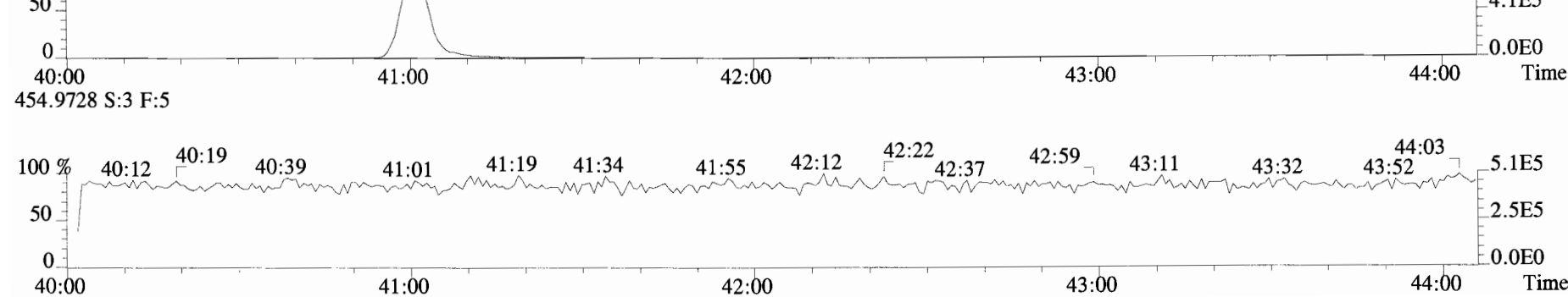
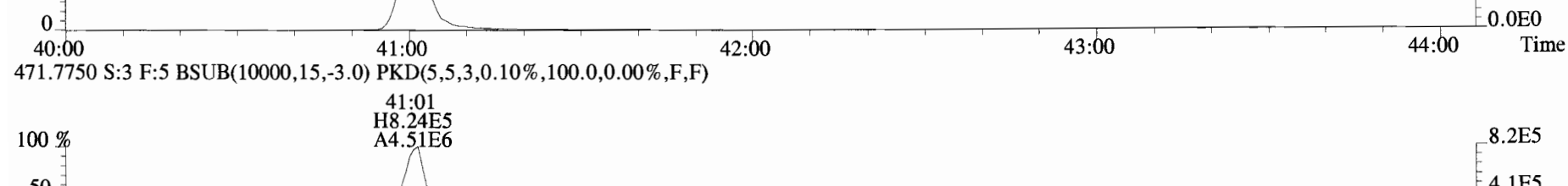
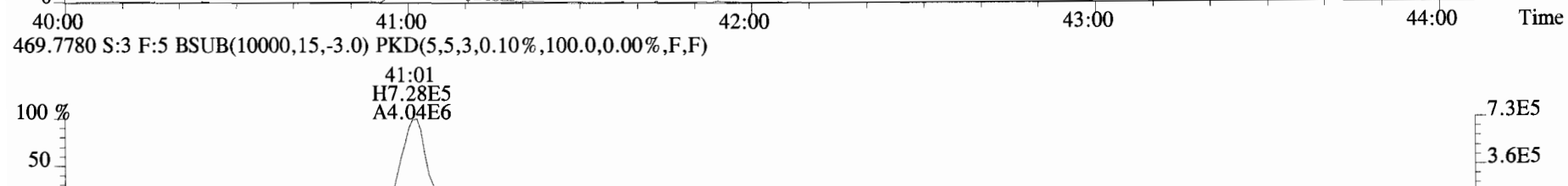
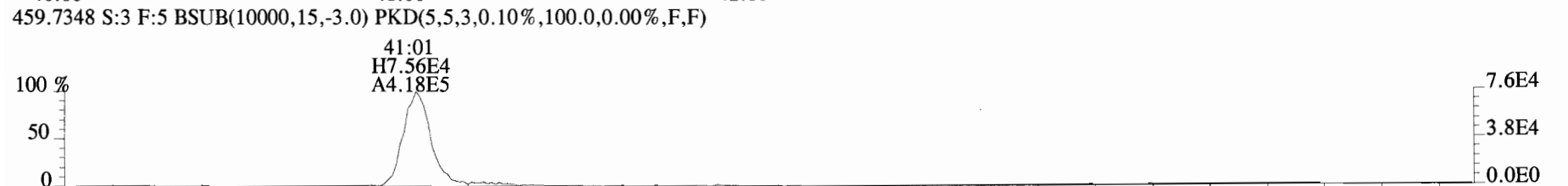
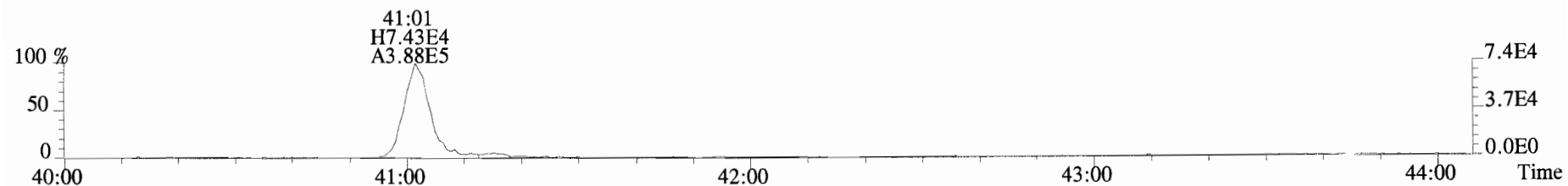
437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



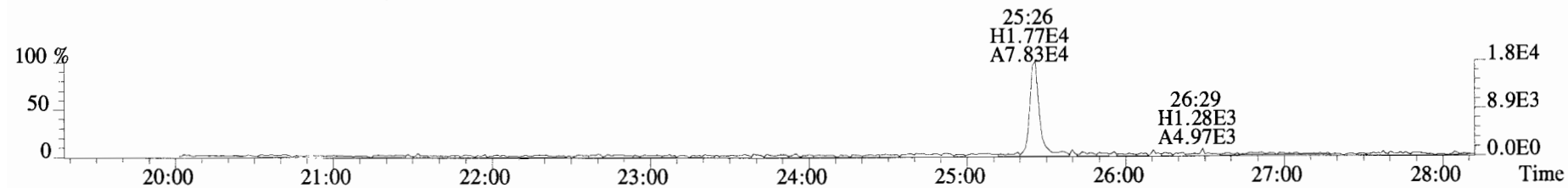
454.9728 S:3 F:4



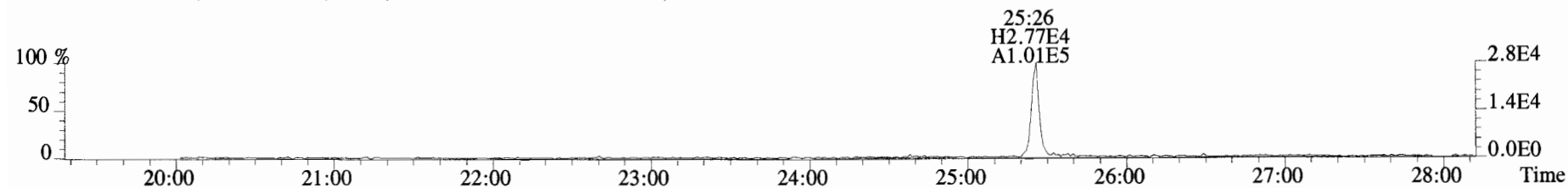
File:190510D2 #1-432 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



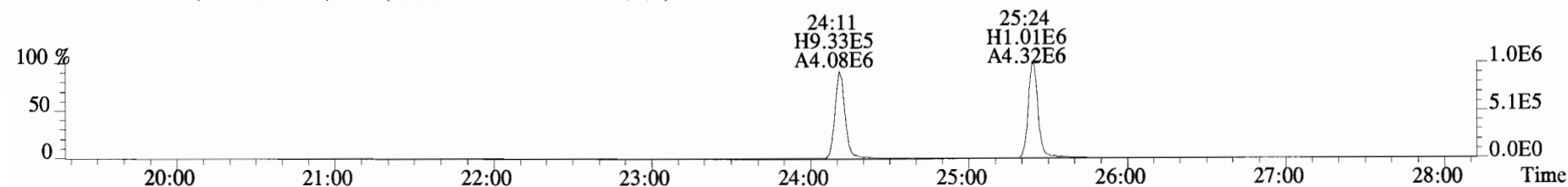
File:190510D2 #1-530 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



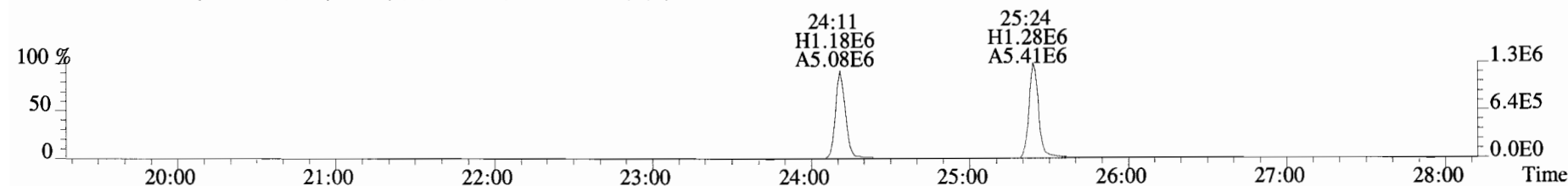
305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



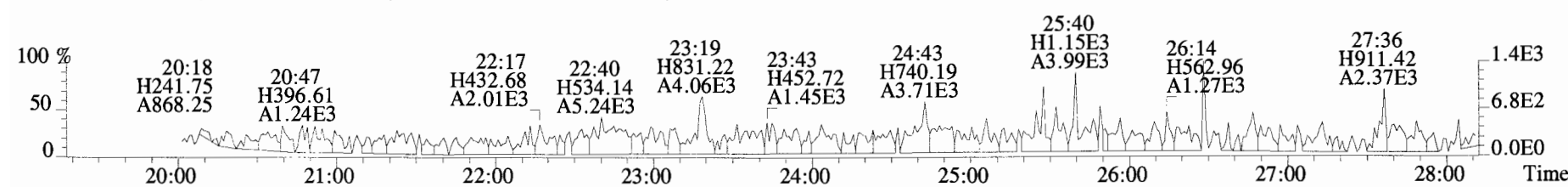
315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



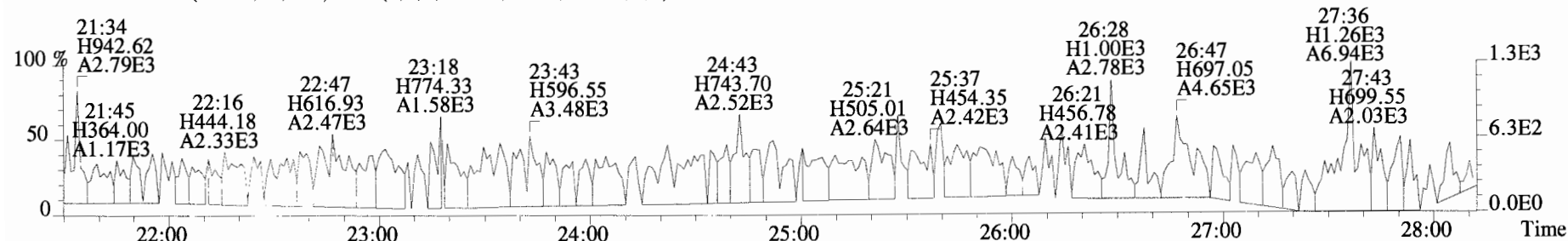
317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



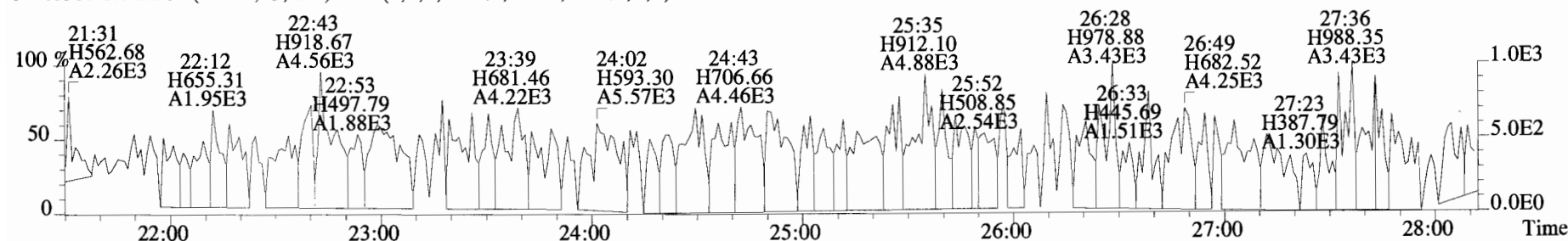
375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



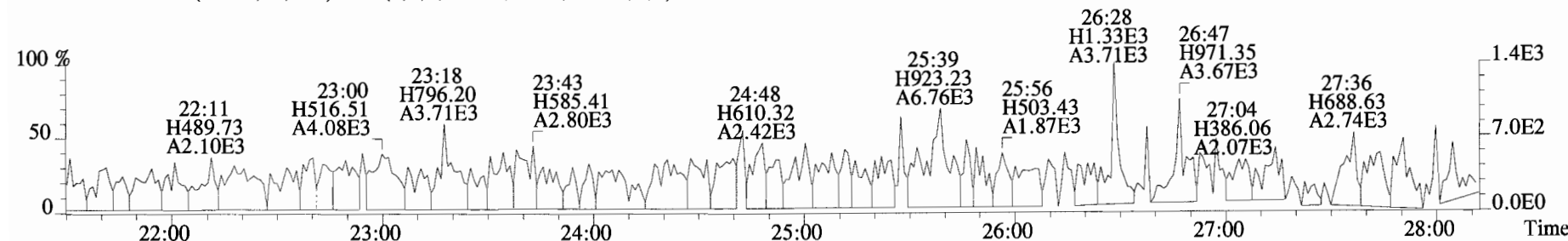
File:190510D2 #1-530 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



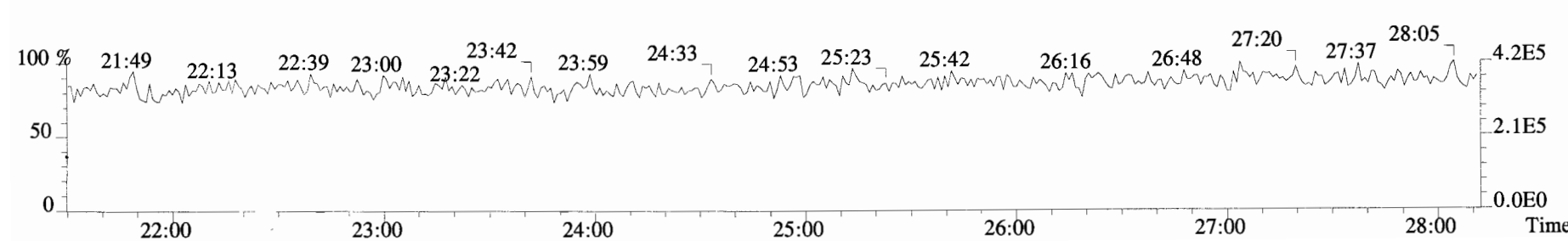
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



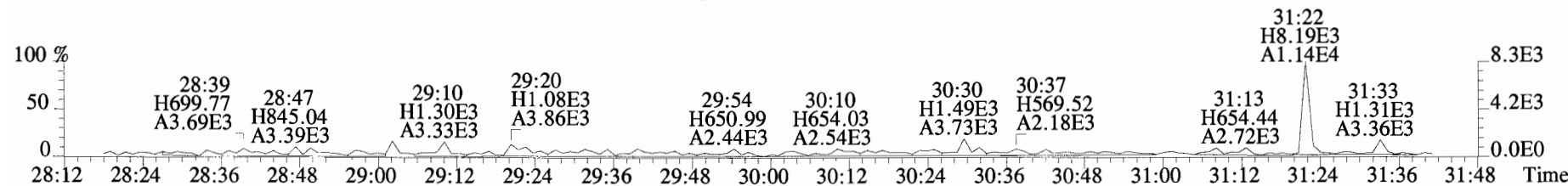
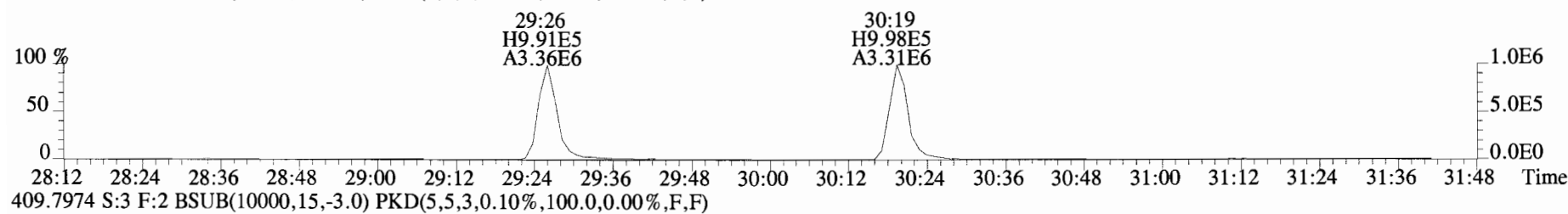
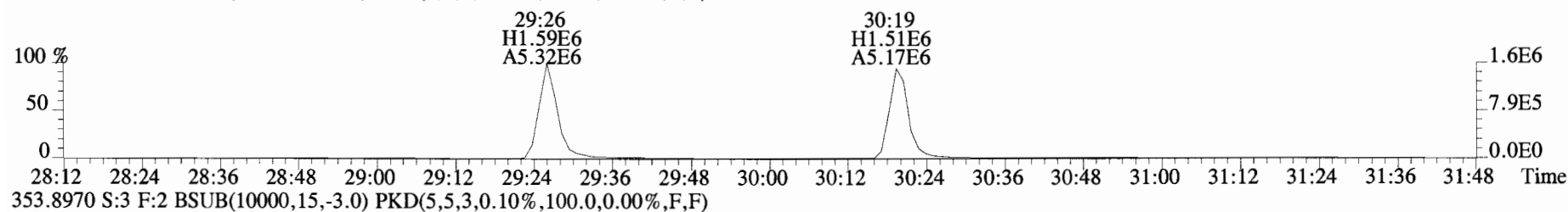
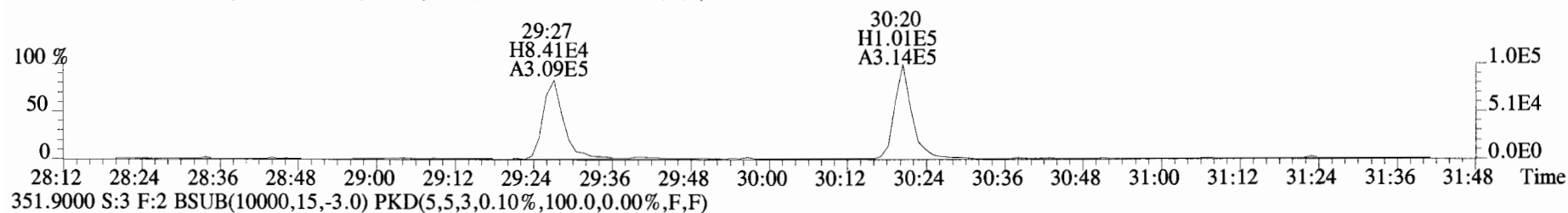
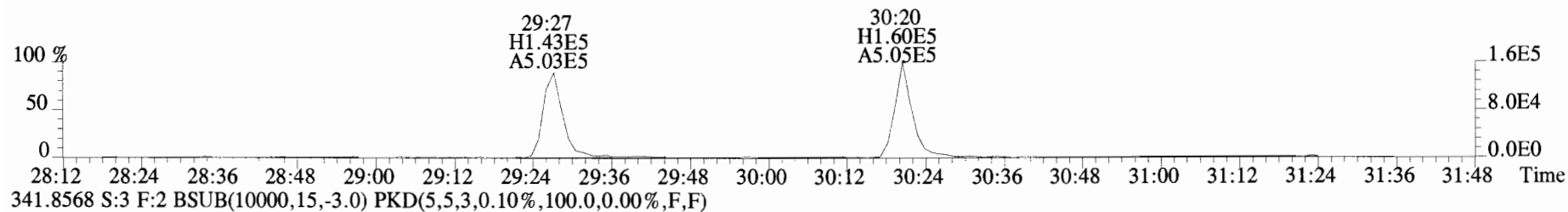
409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



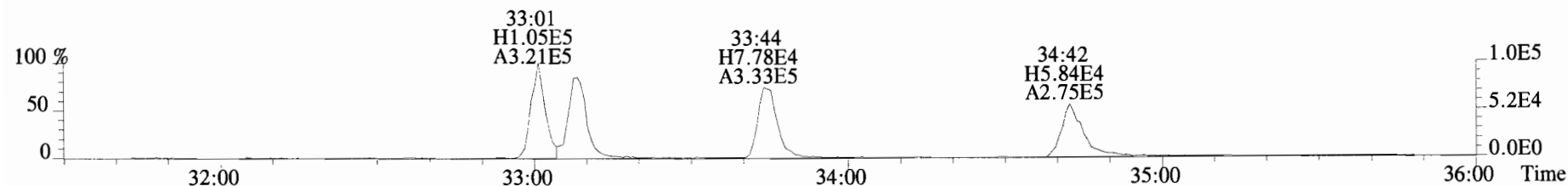
316.9824 S:3



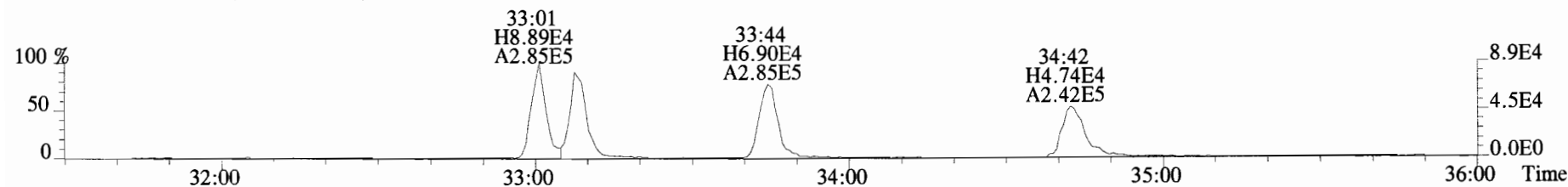
File:190510D2 #1-180 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista_Analytical_Laboratory_VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



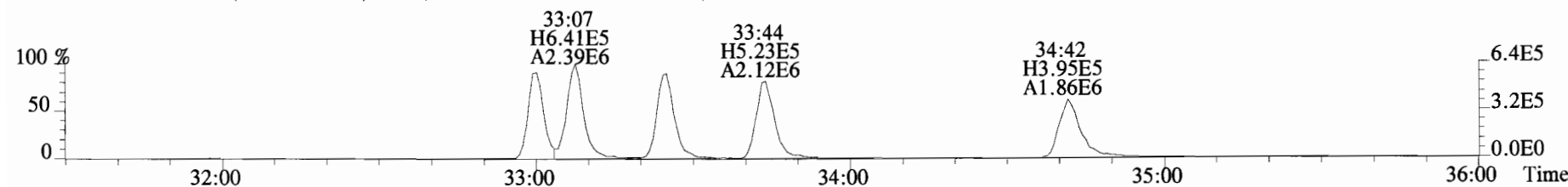
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



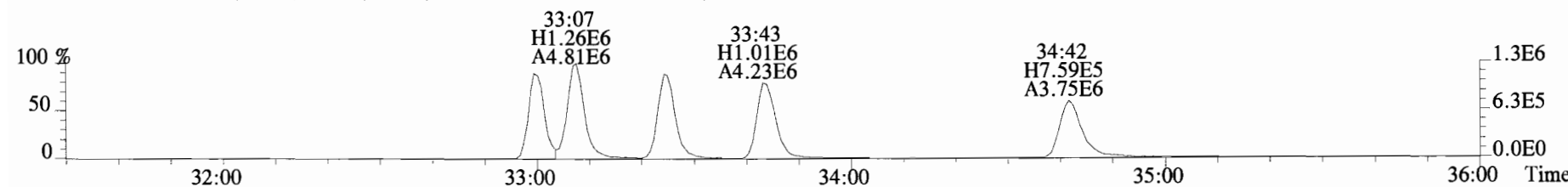
375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



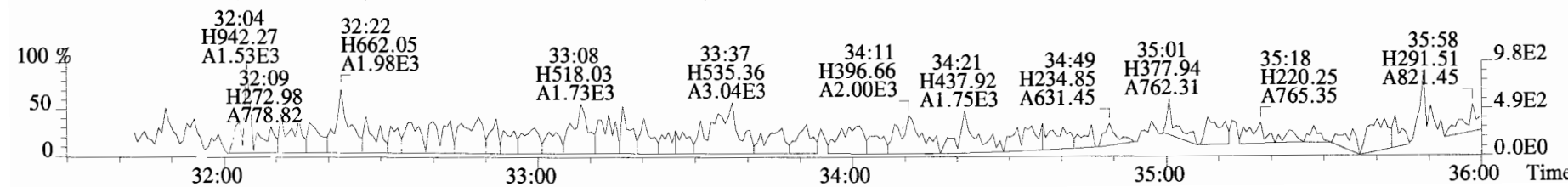
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



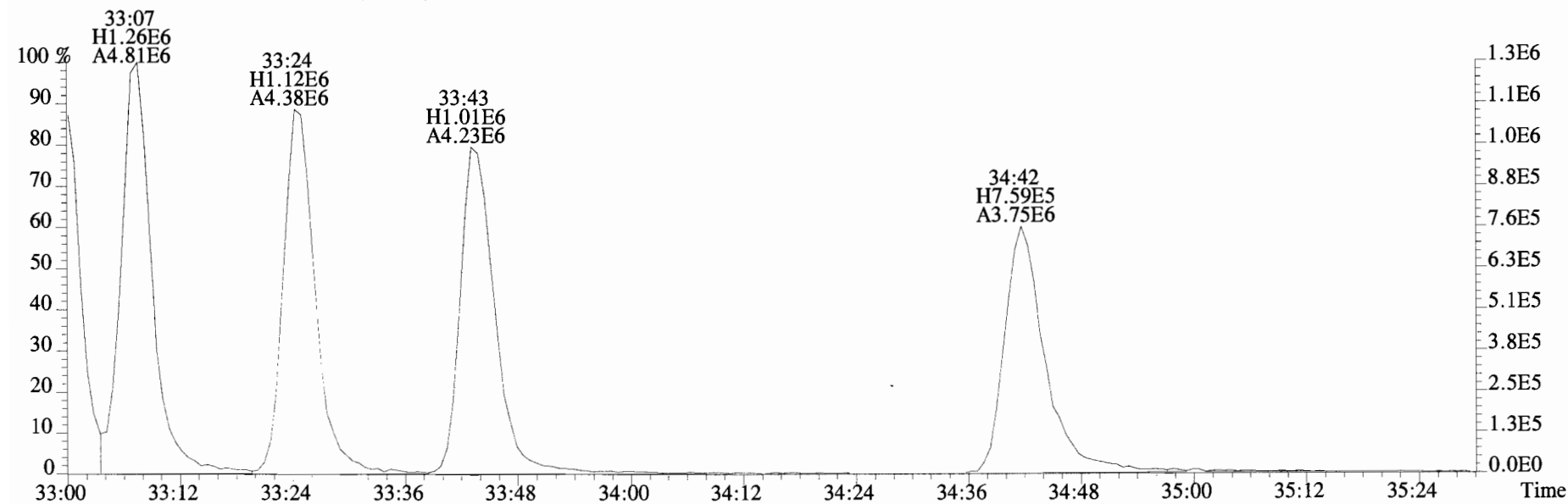
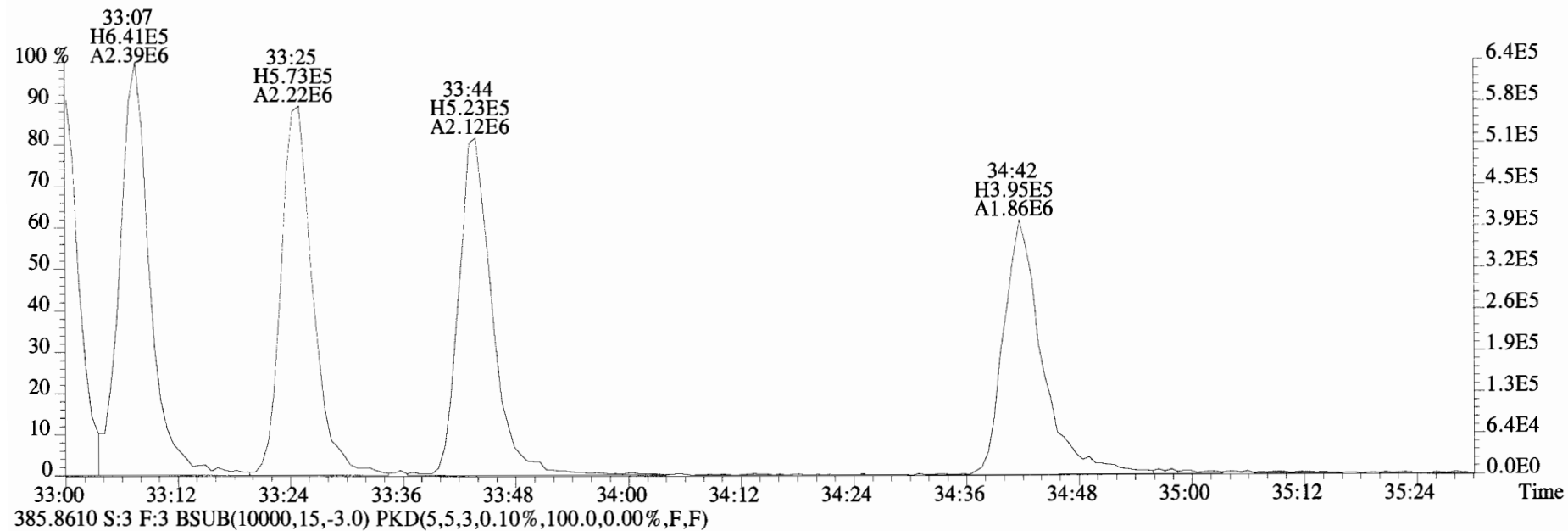
385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



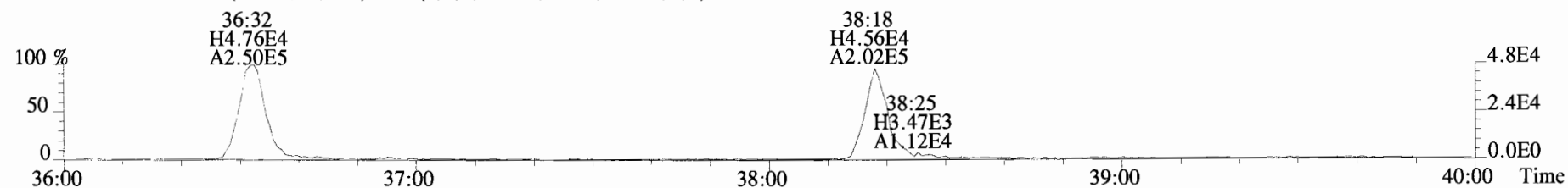
445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



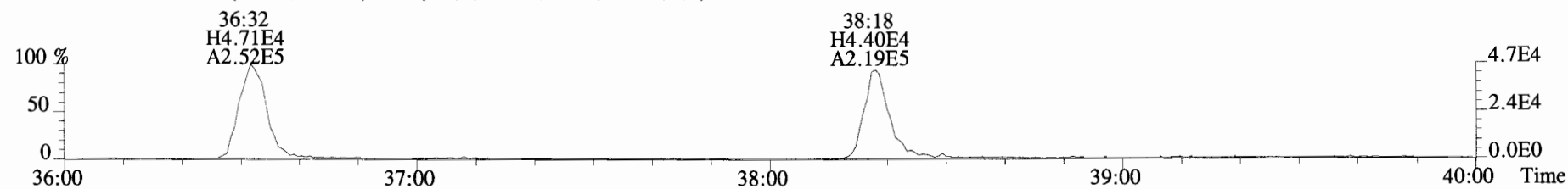
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



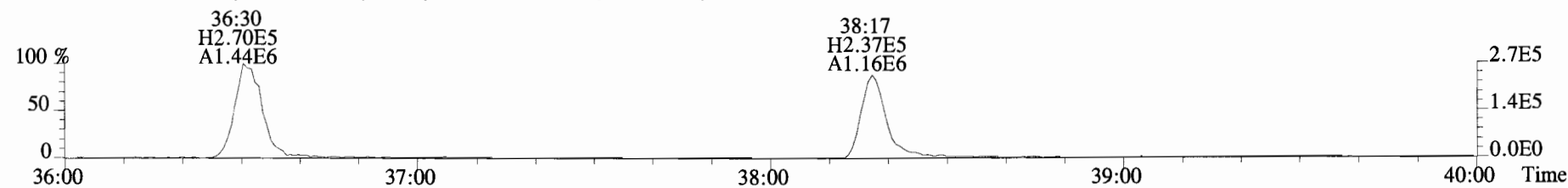
File:190510D2 #1-355 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



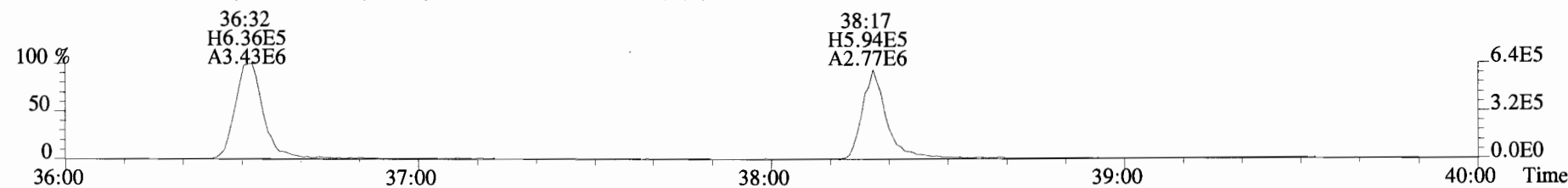
409.7788 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



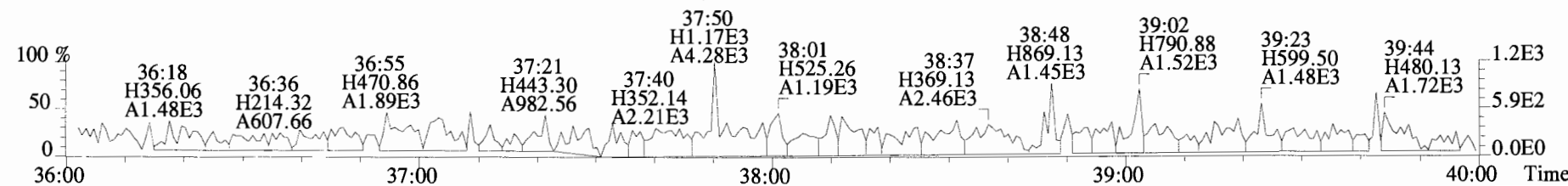
417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



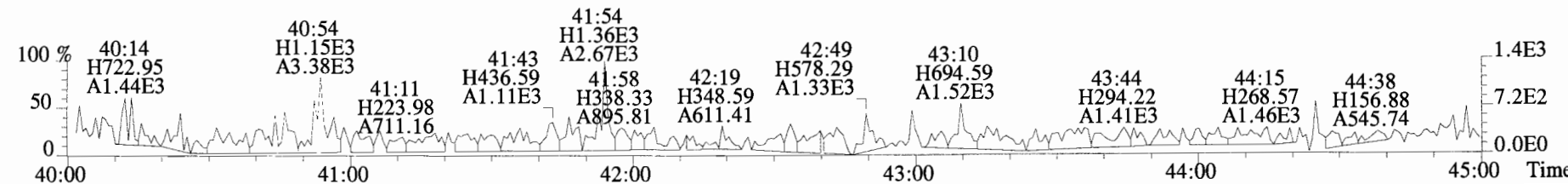
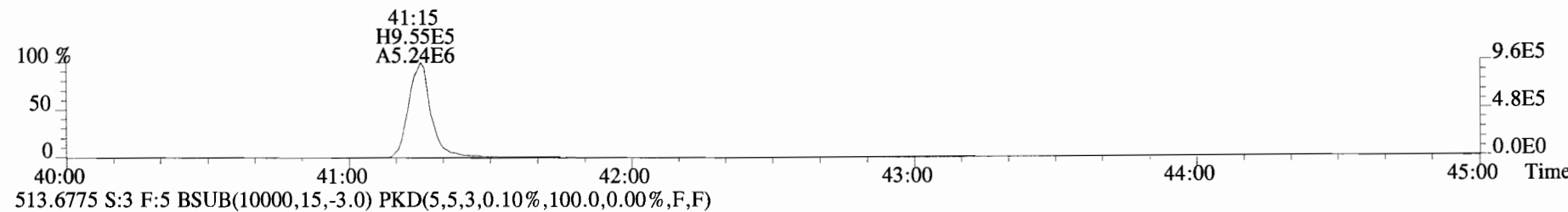
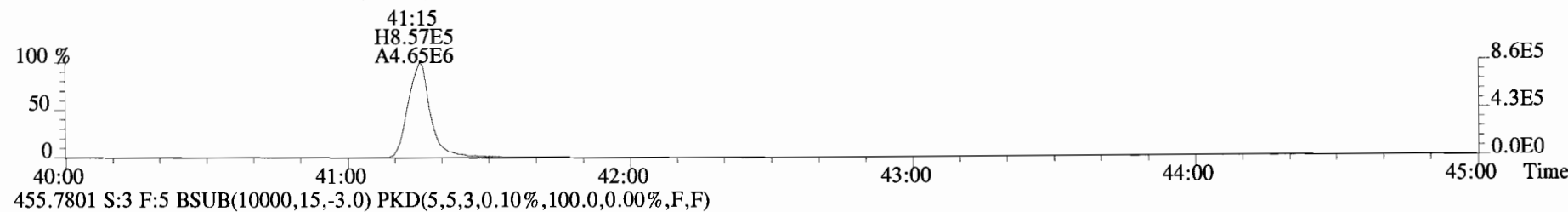
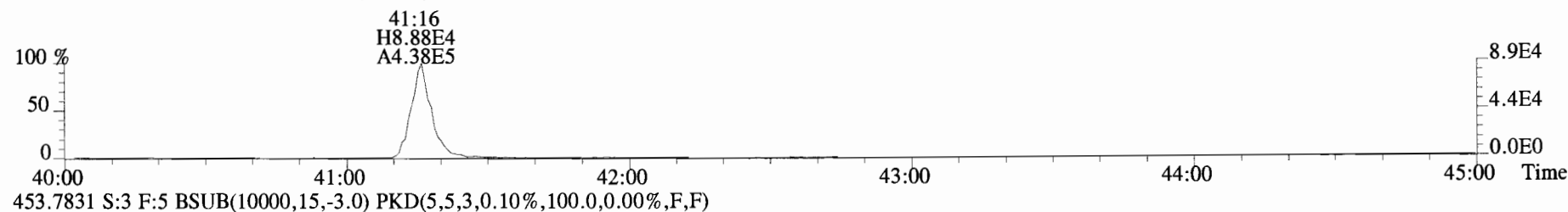
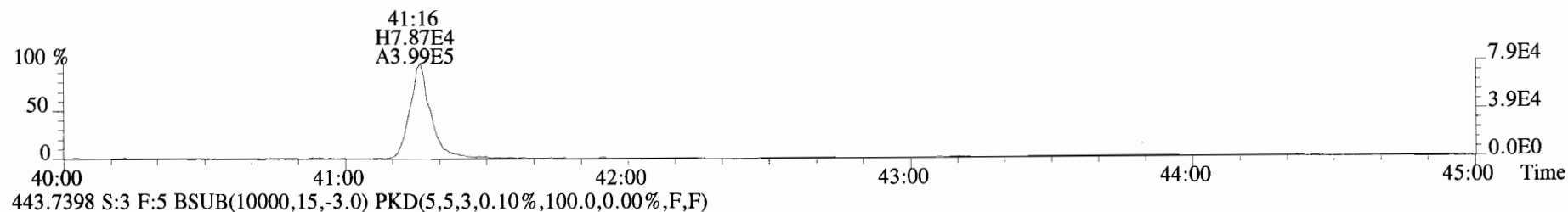
419.8220 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



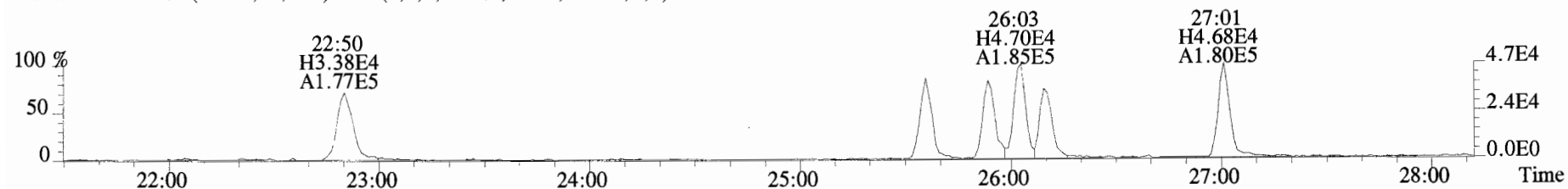
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



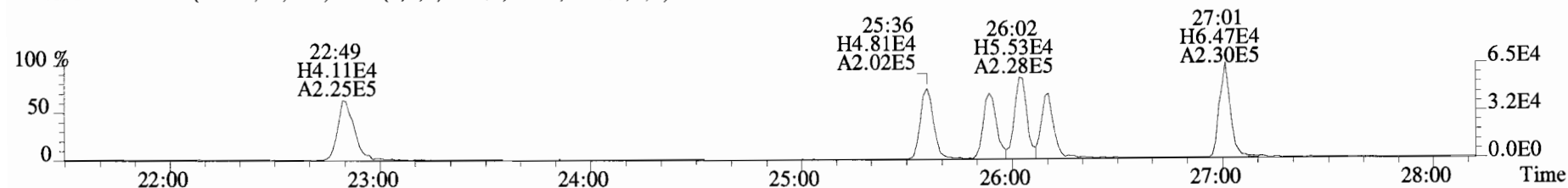
File:190510D2 #1-432 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



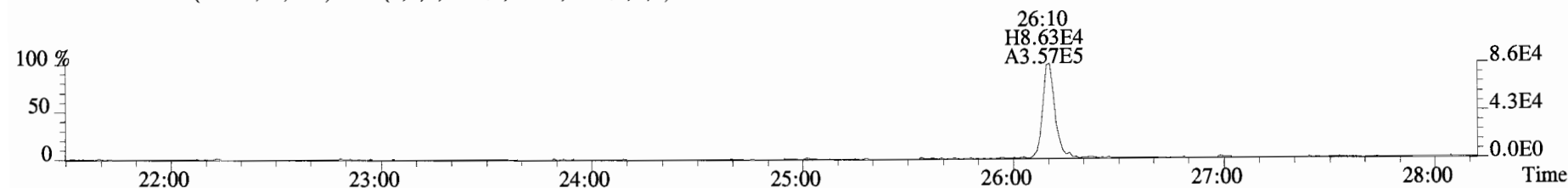
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



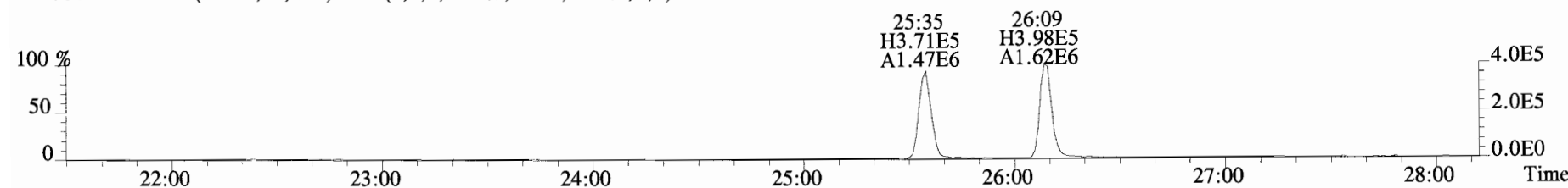
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



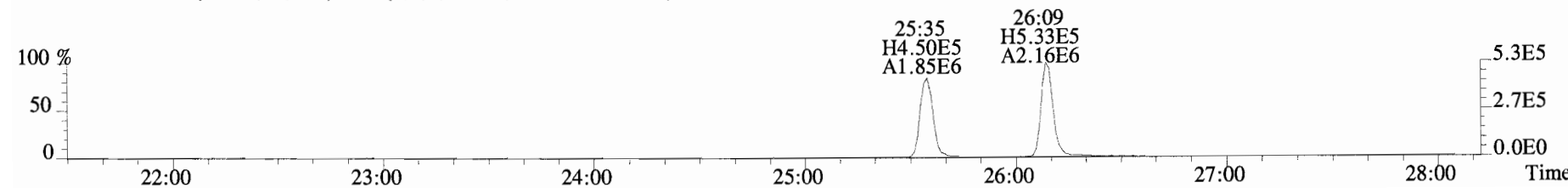
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



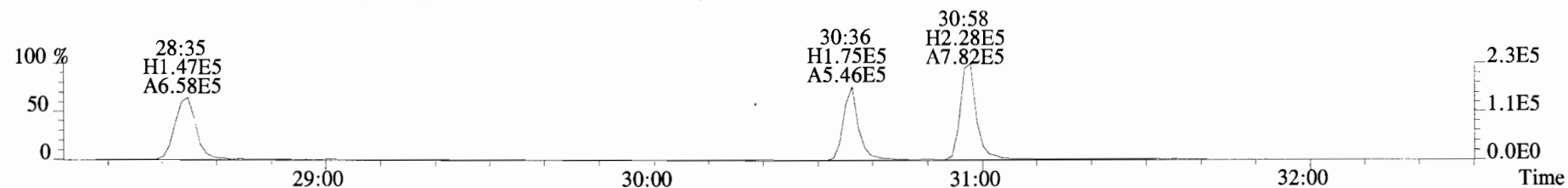
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



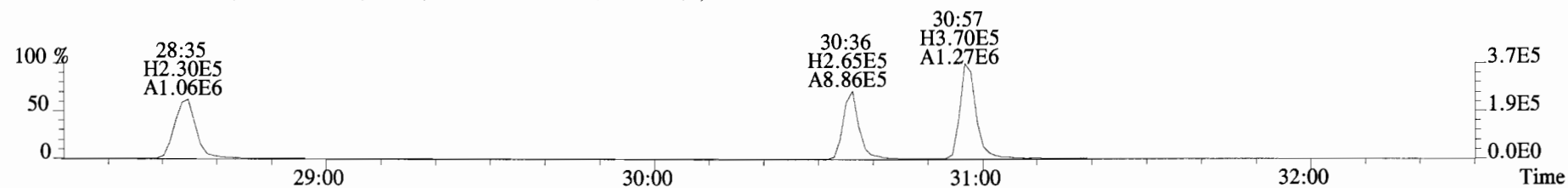
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



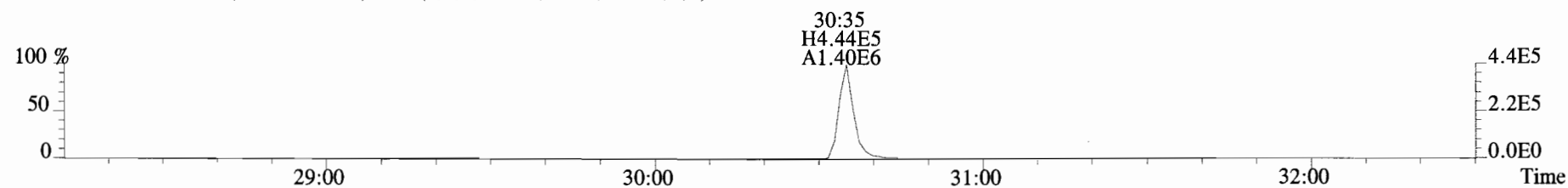
File:190510D2 #1-180 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista_Analytical_Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



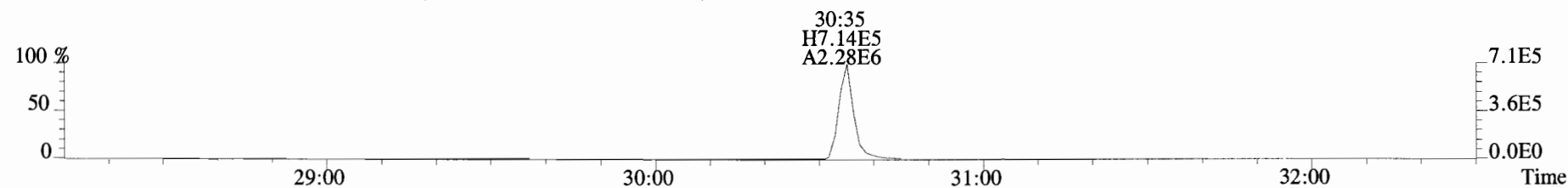
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



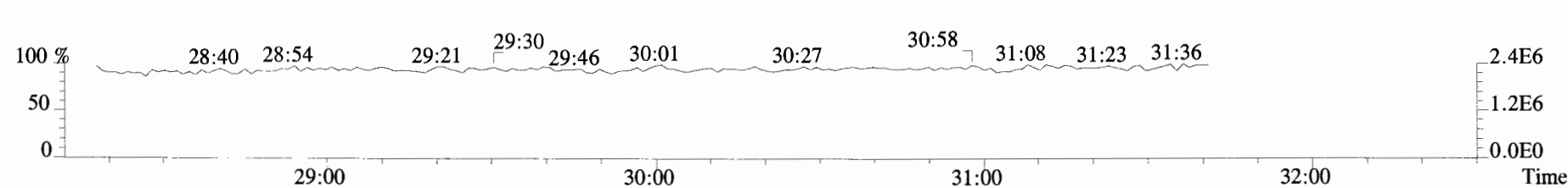
365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



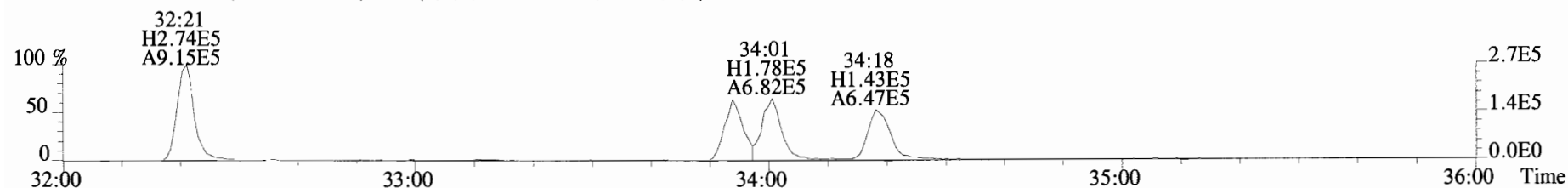
367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



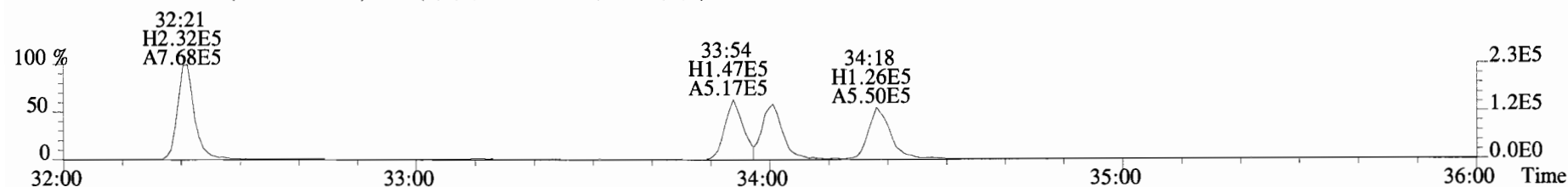
366.9792 S:4 F:2



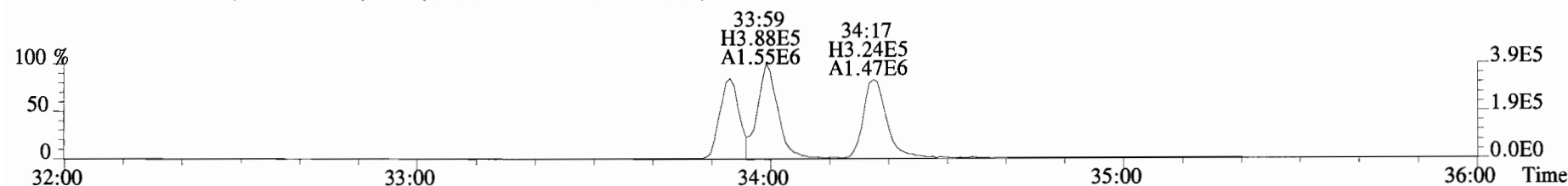
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



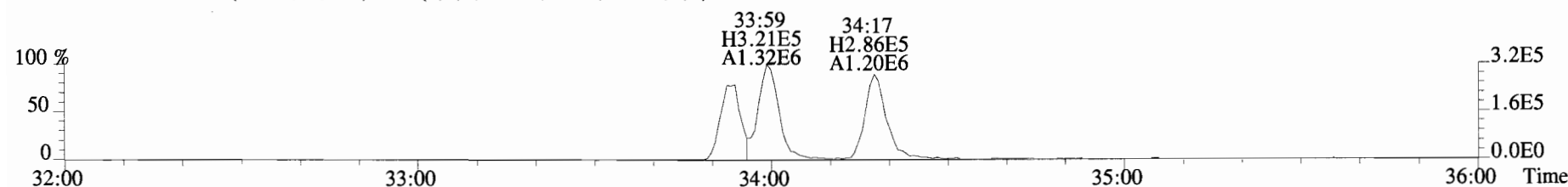
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



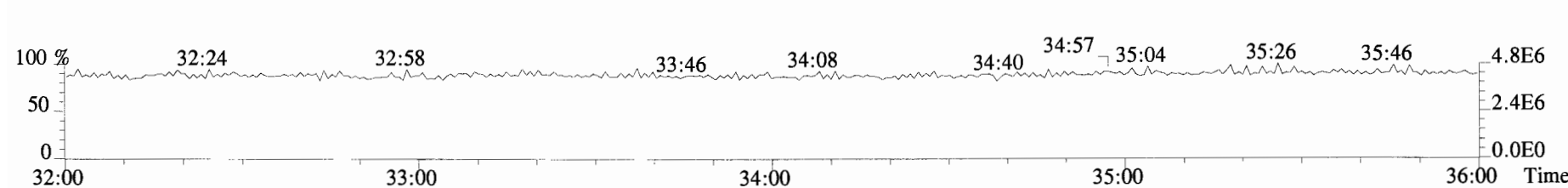
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



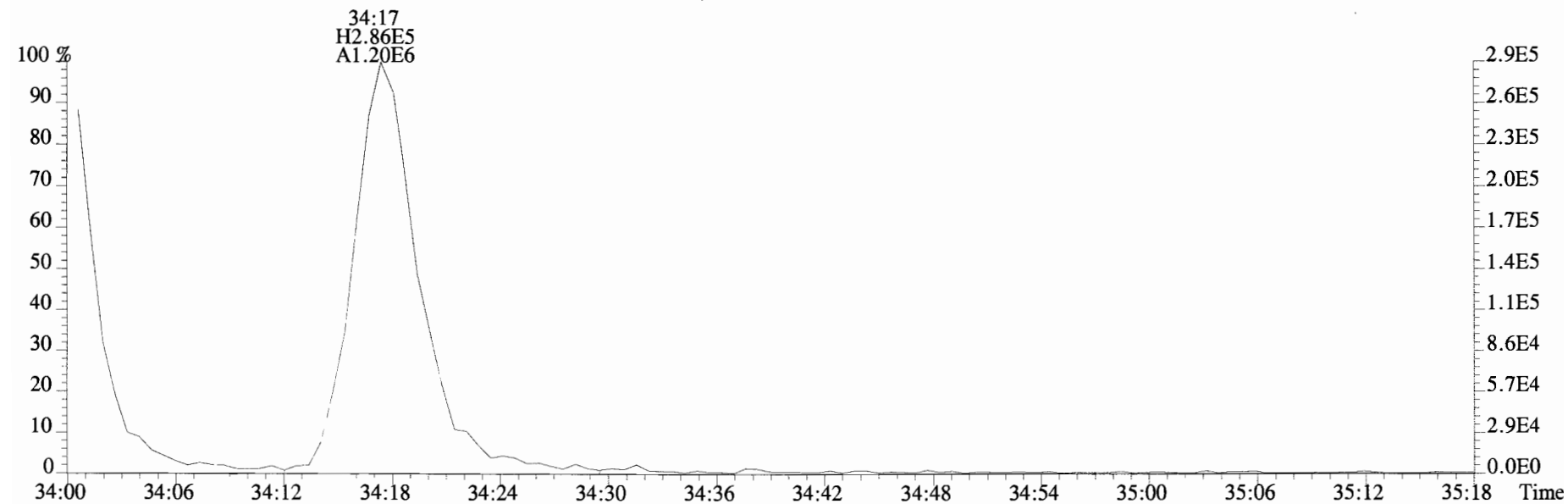
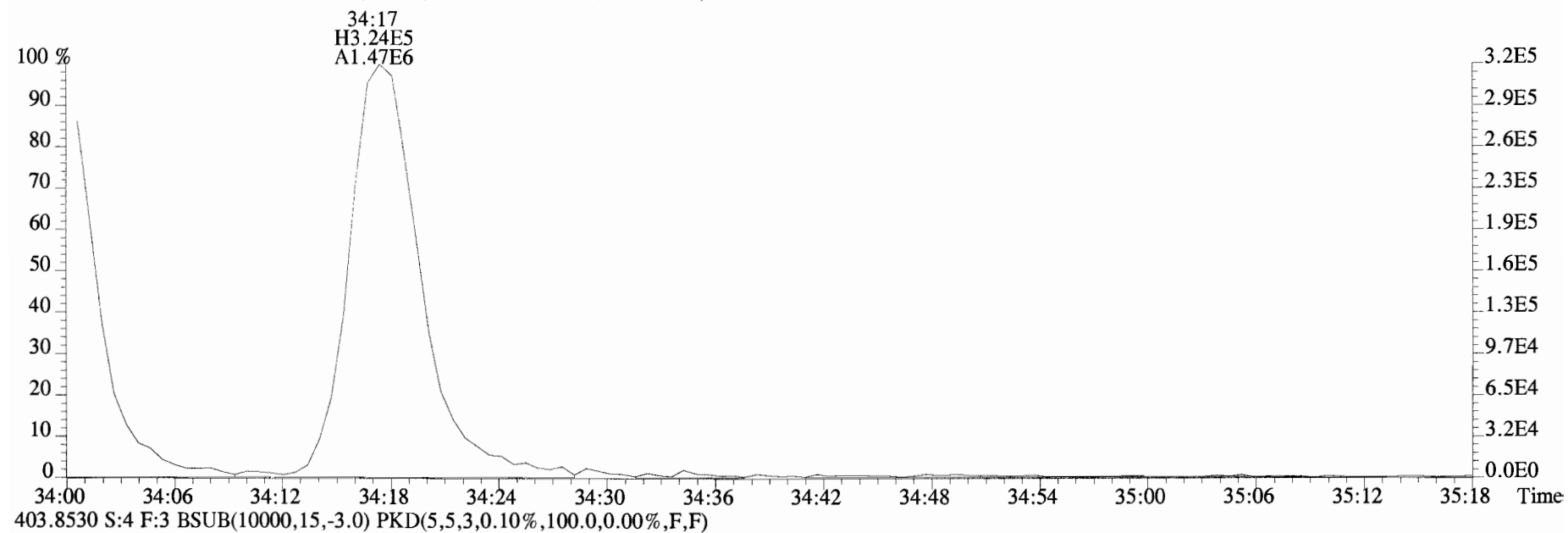
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



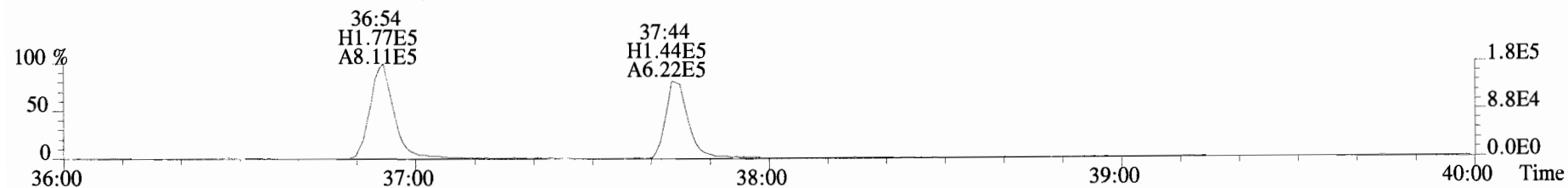
392.9760 S:4 F:3



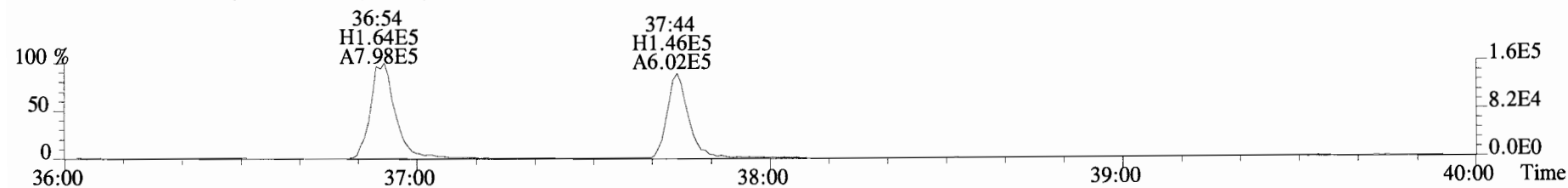
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



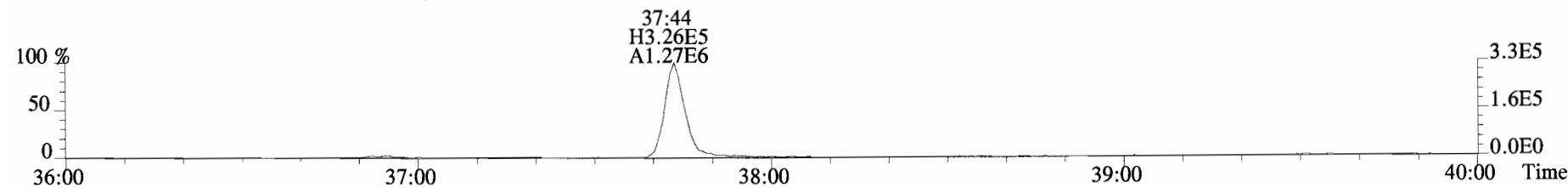
File:190510D2 #1-355 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



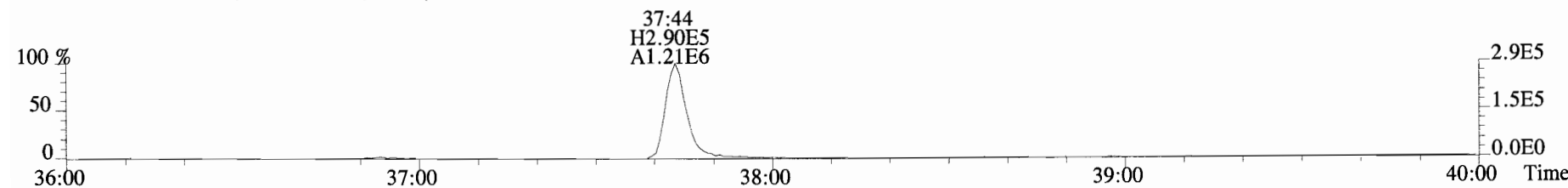
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



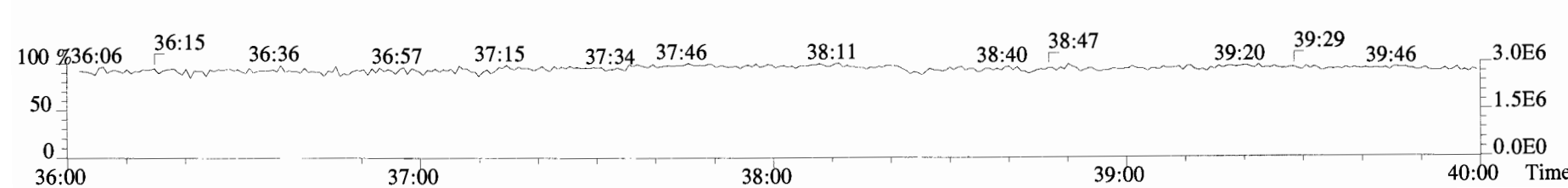
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



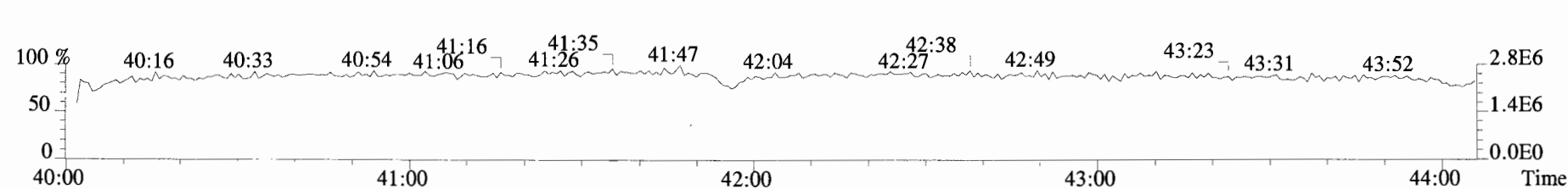
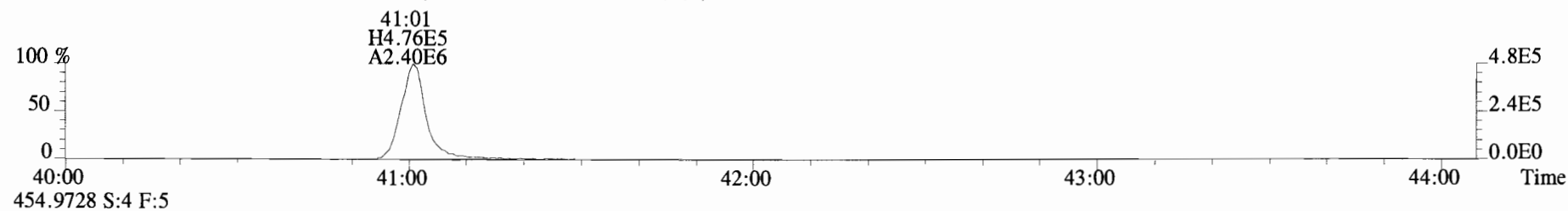
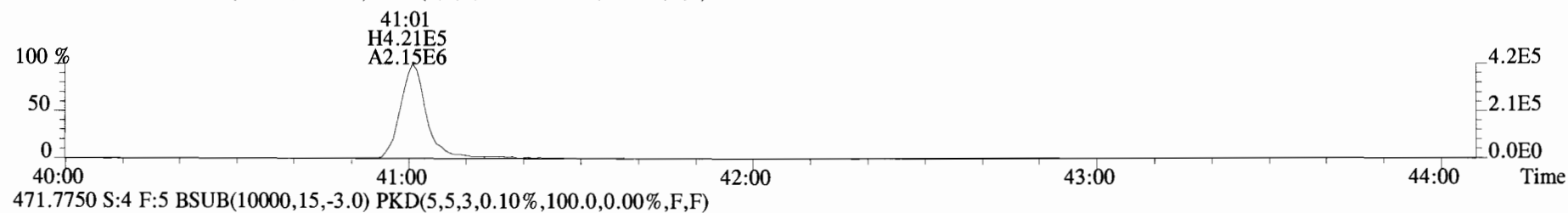
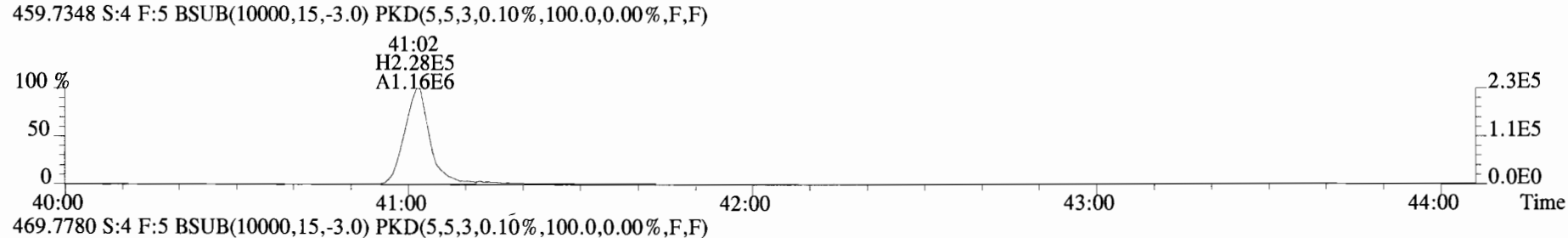
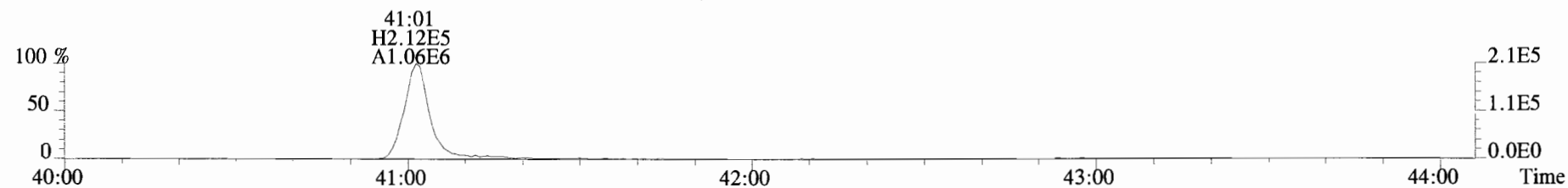
437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



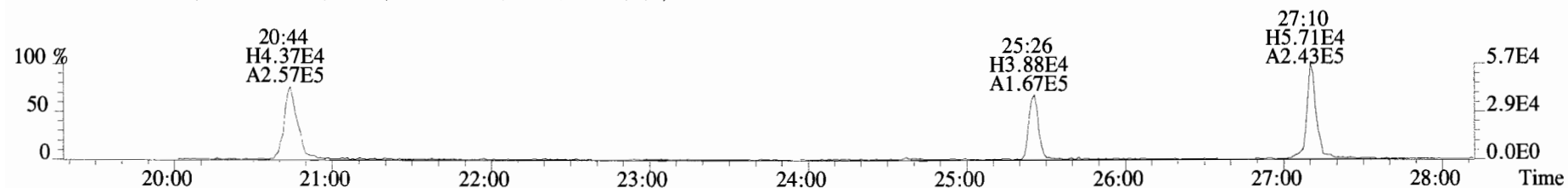
454.9728 S:4 F:4



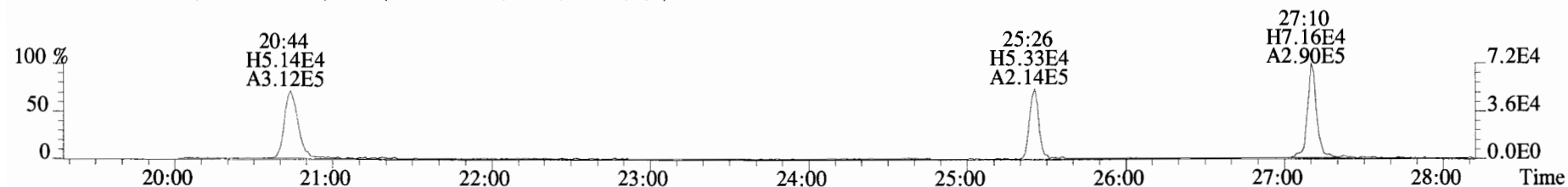
File:190510D2 #1-432 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



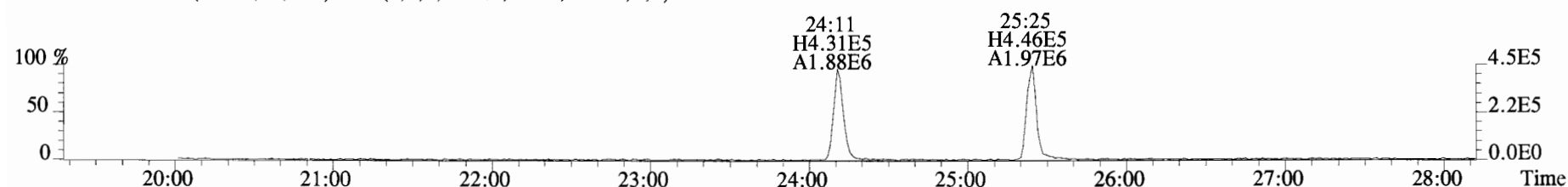
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



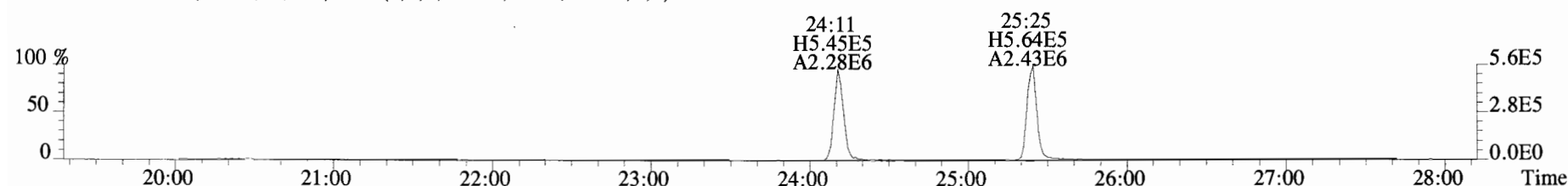
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



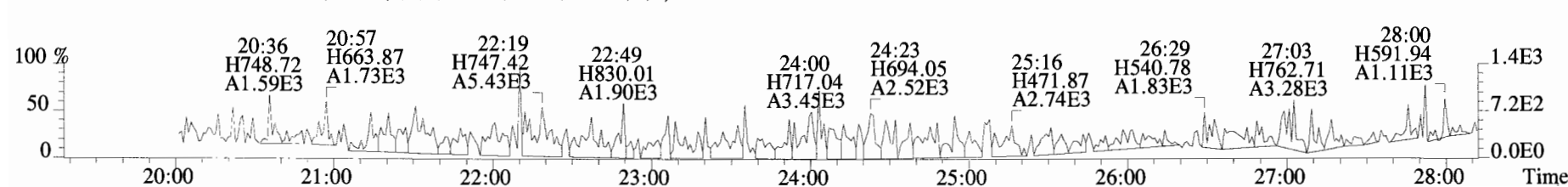
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



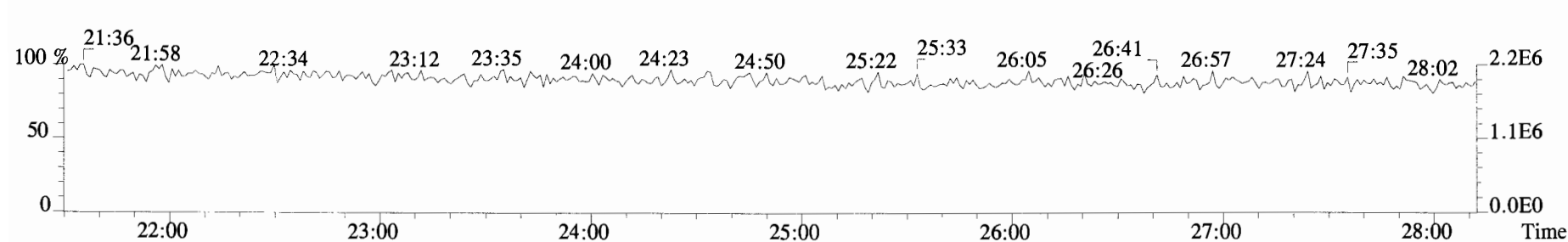
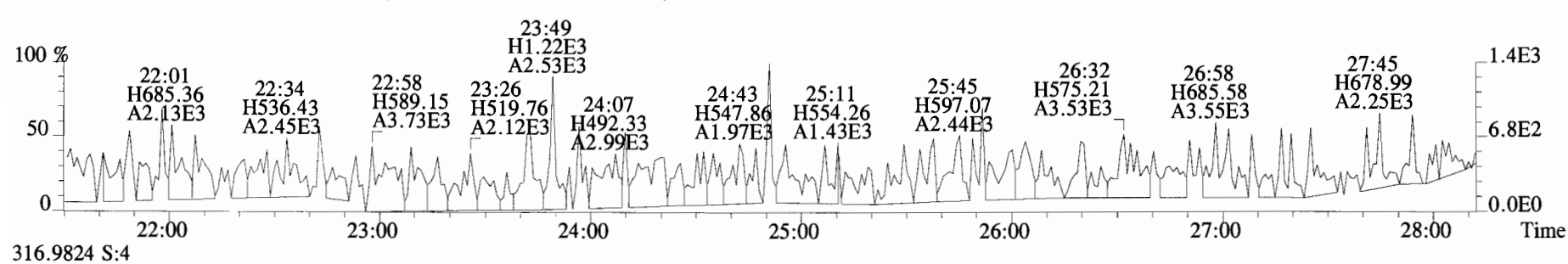
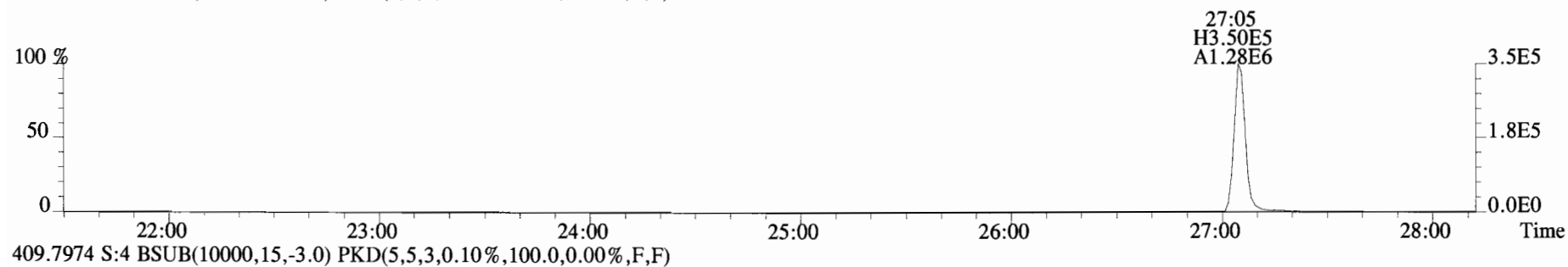
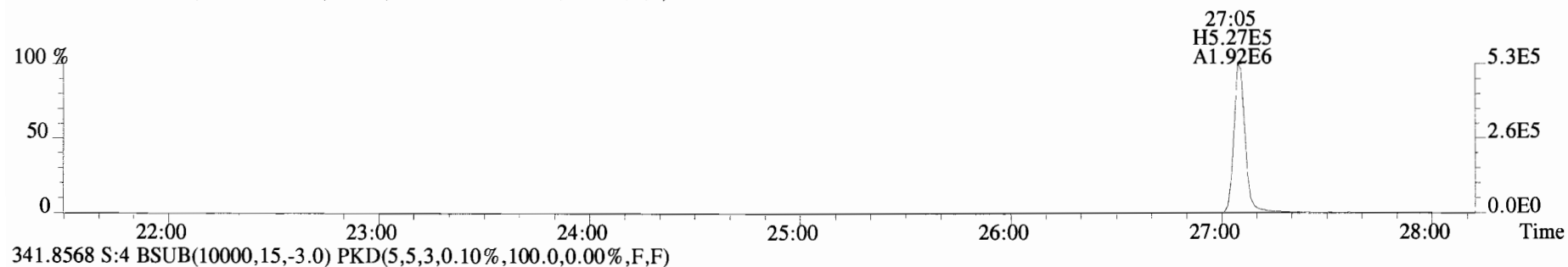
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



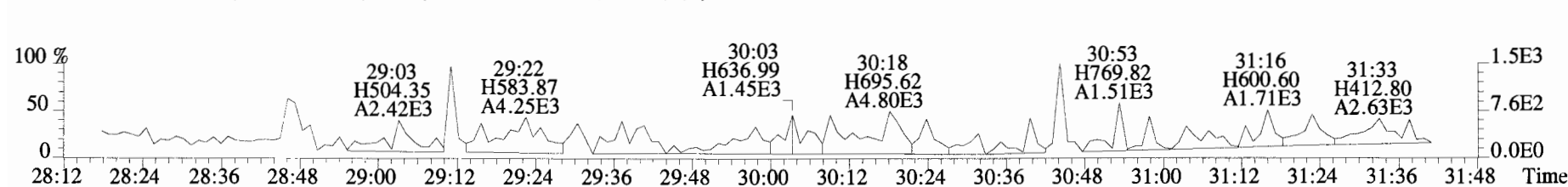
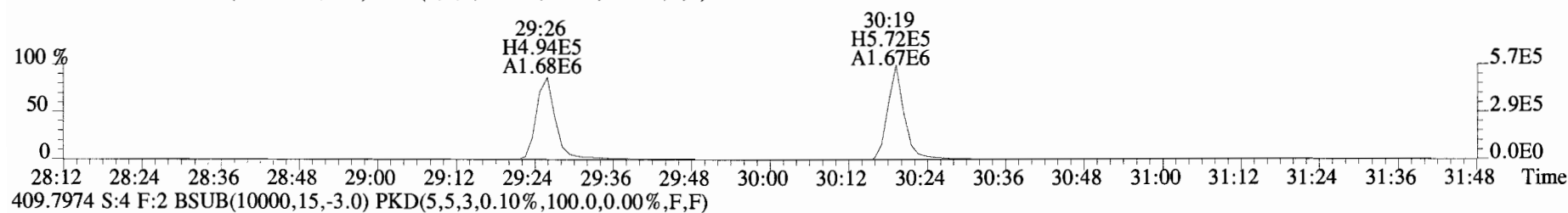
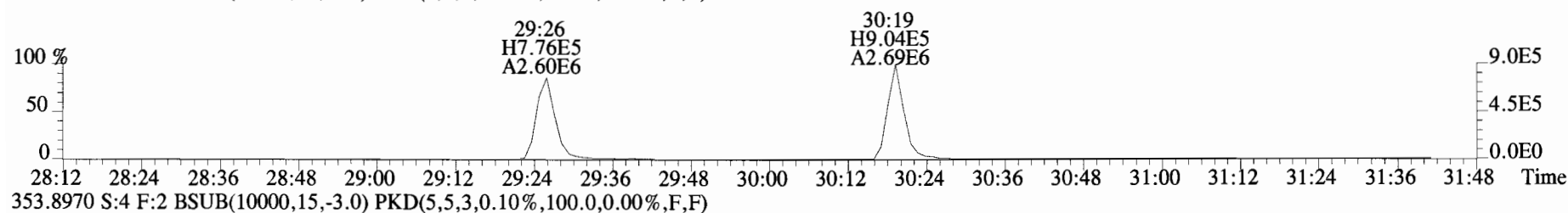
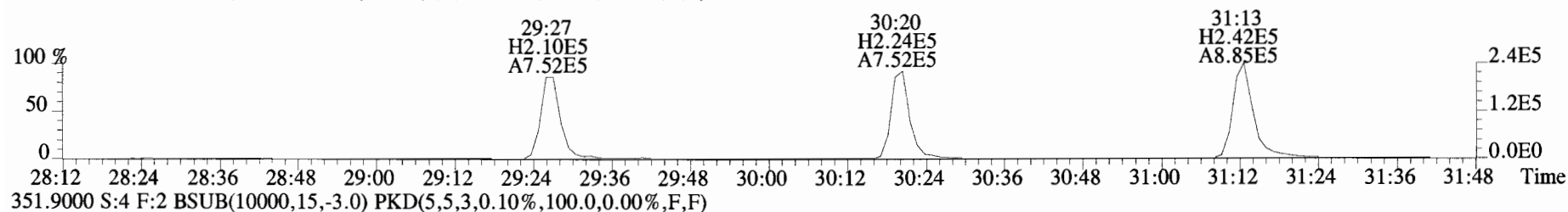
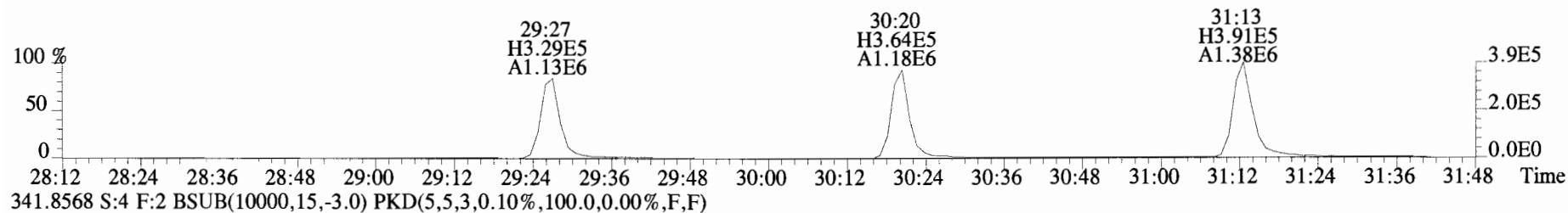
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



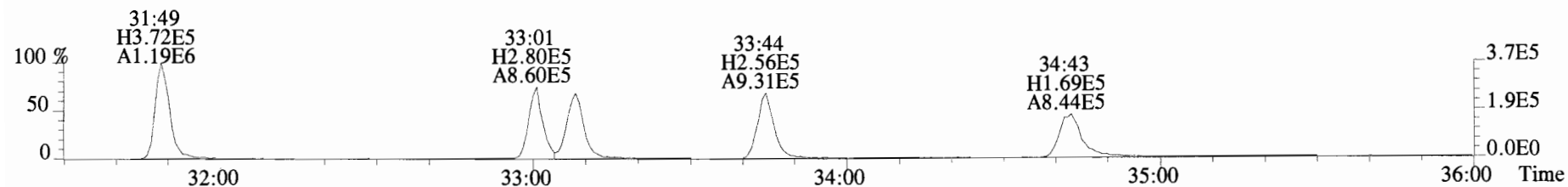
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



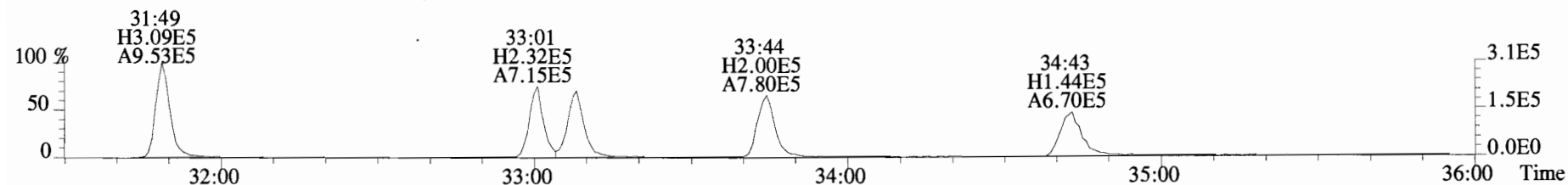
File:190510D2 #1-180 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



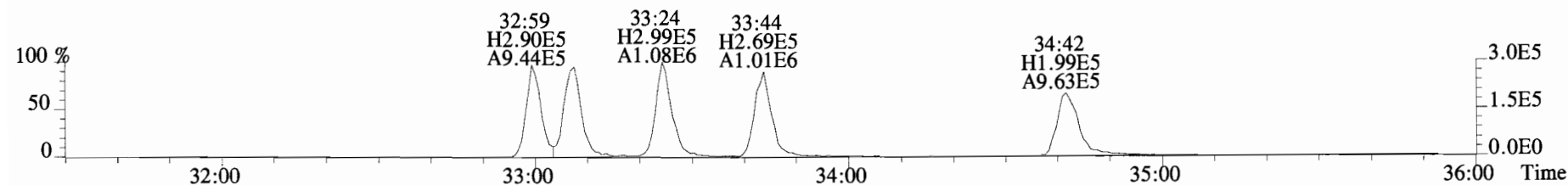
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



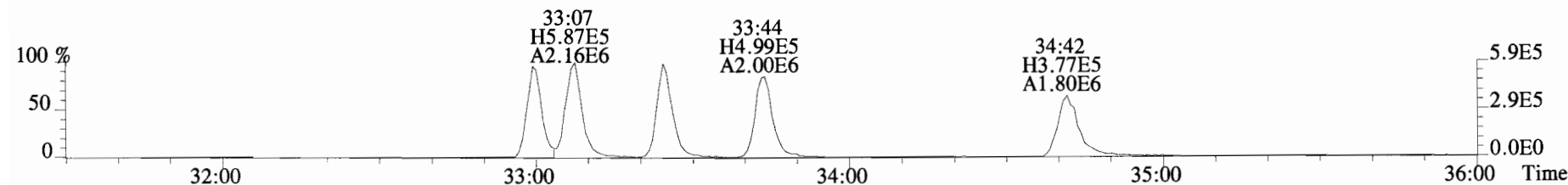
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



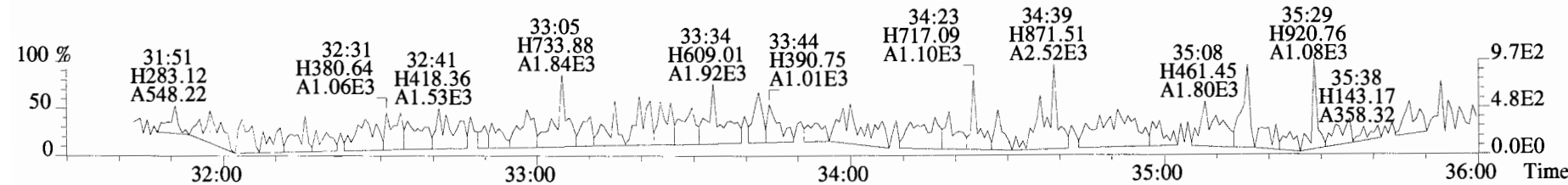
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



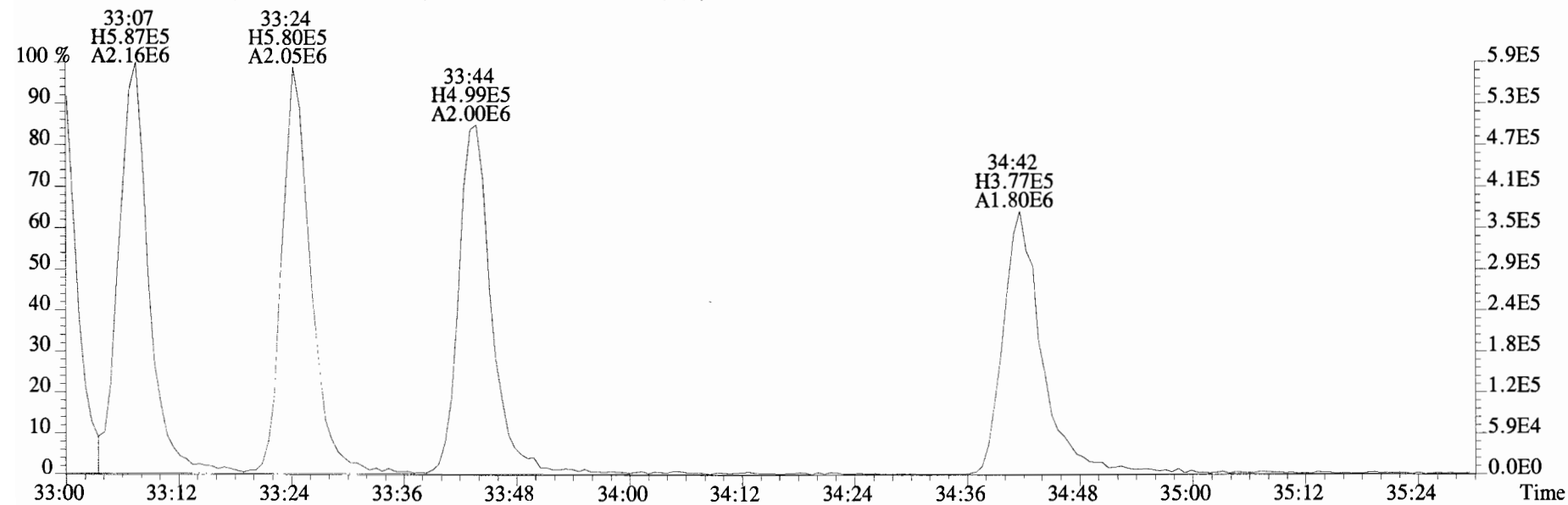
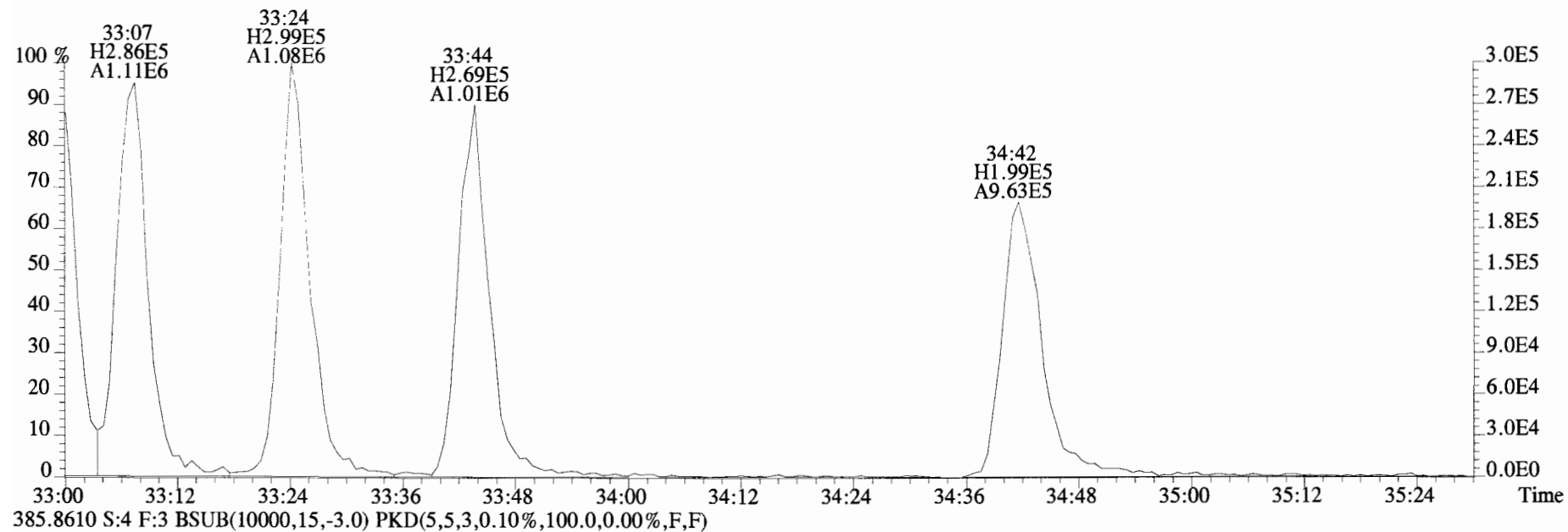
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



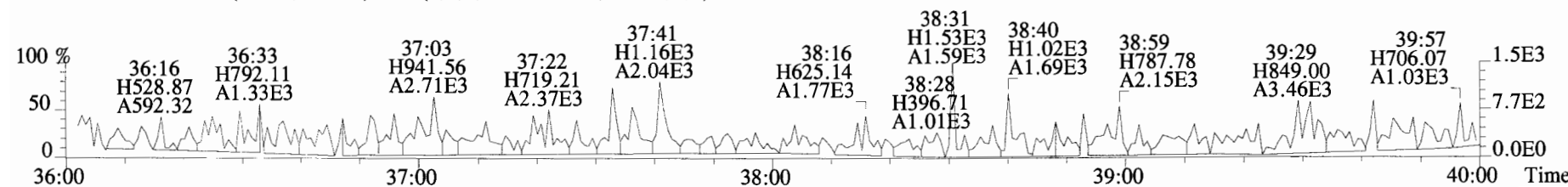
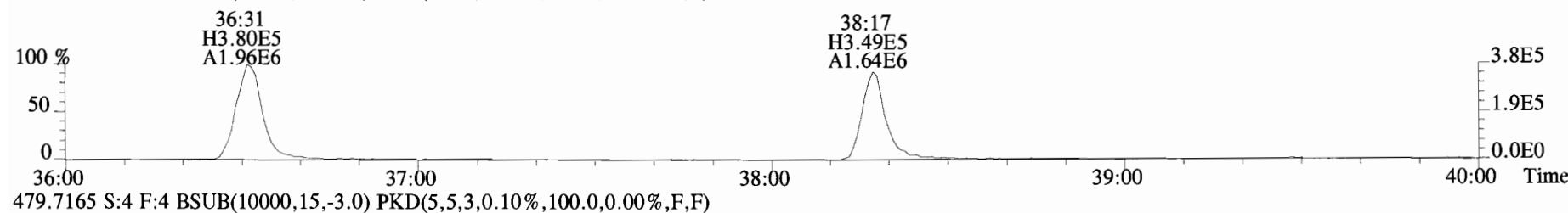
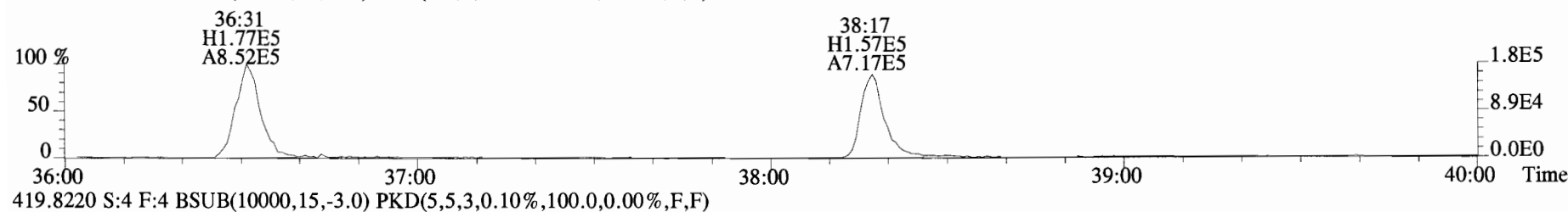
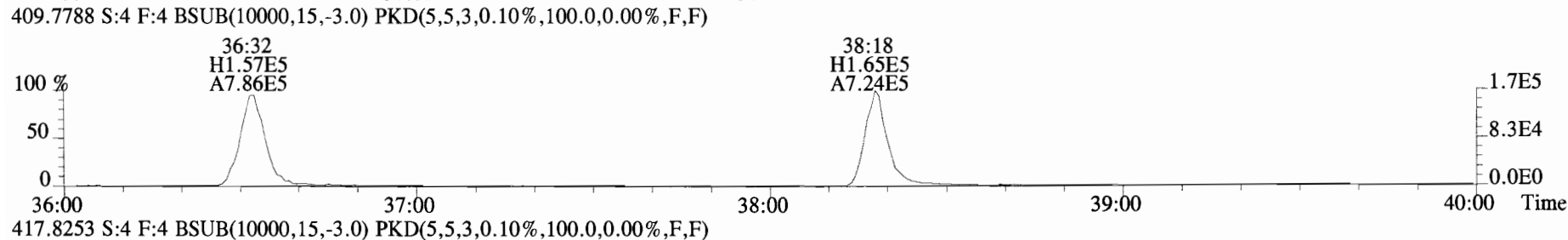
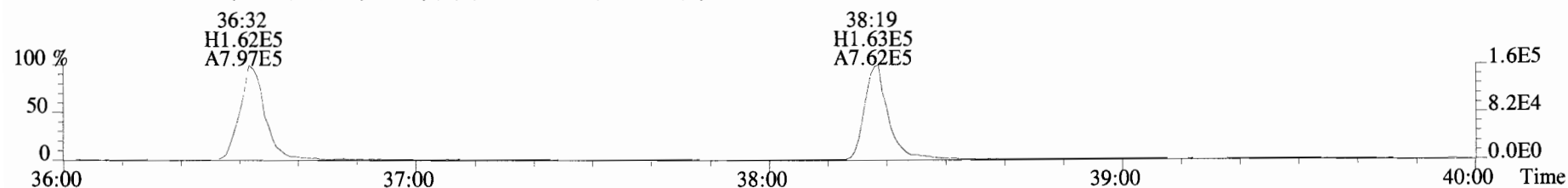
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



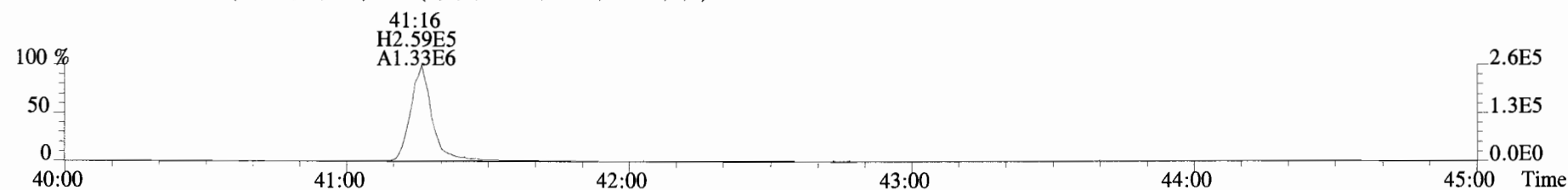
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



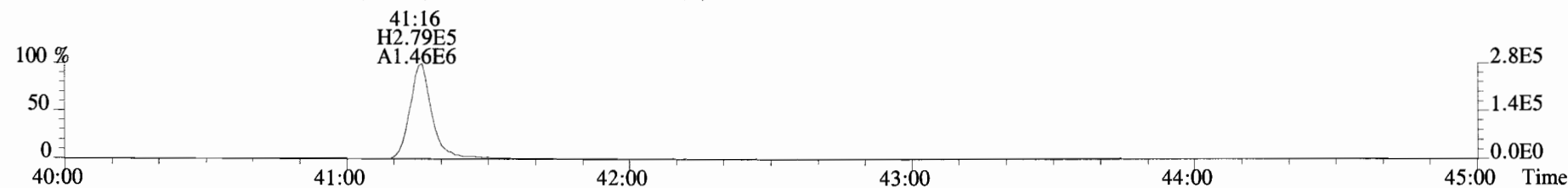
File:190510D2 #1-355 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



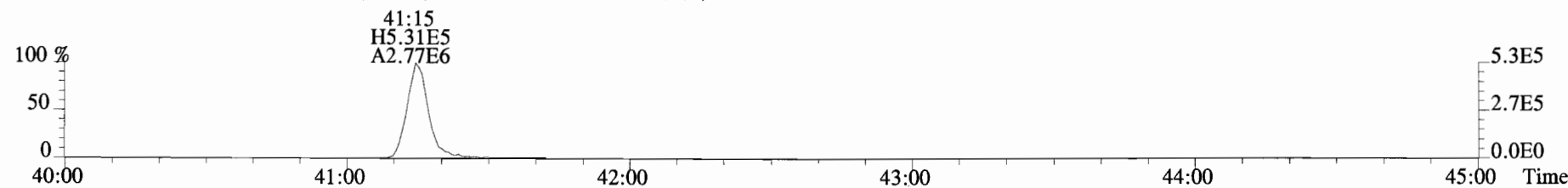
File:190510D2 #1-432 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



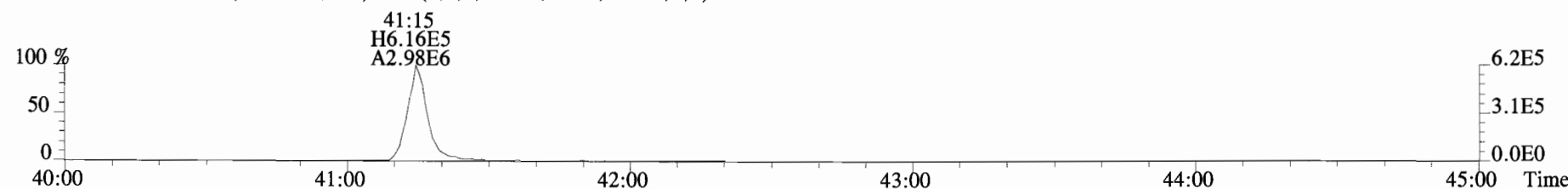
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



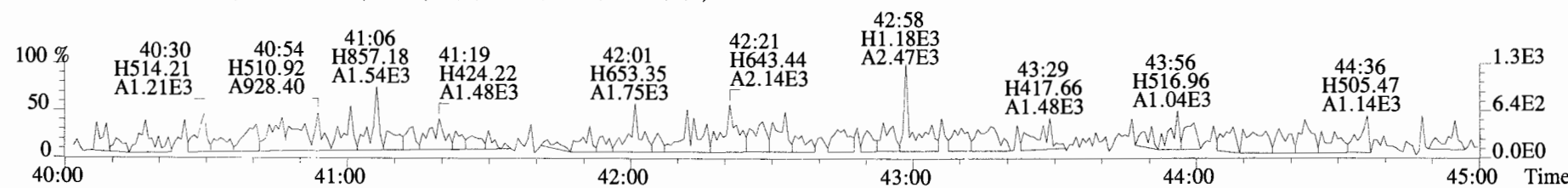
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



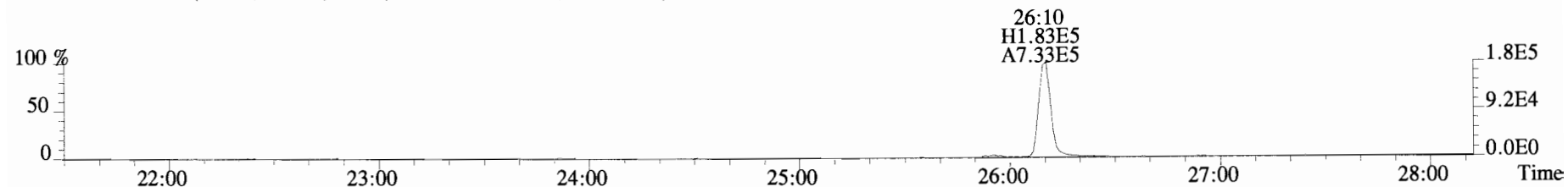
455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



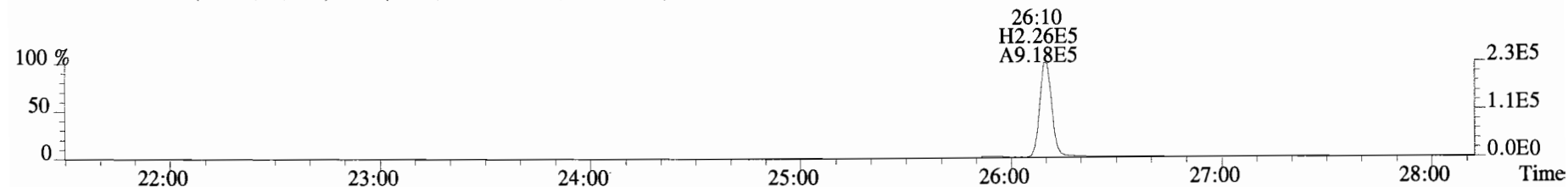
513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



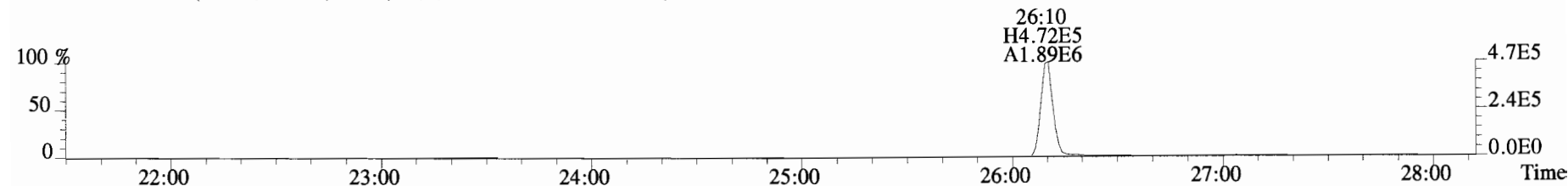
File:190510D2 #1-530 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



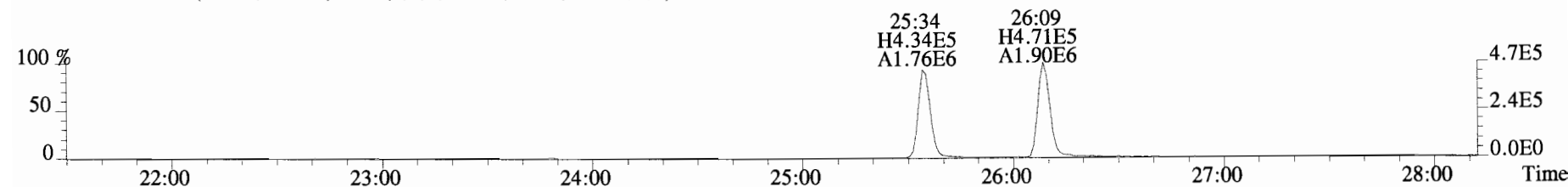
321.8936 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



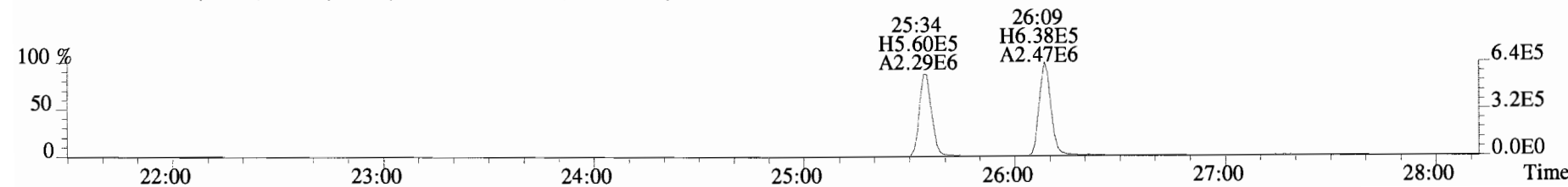
327.8847 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



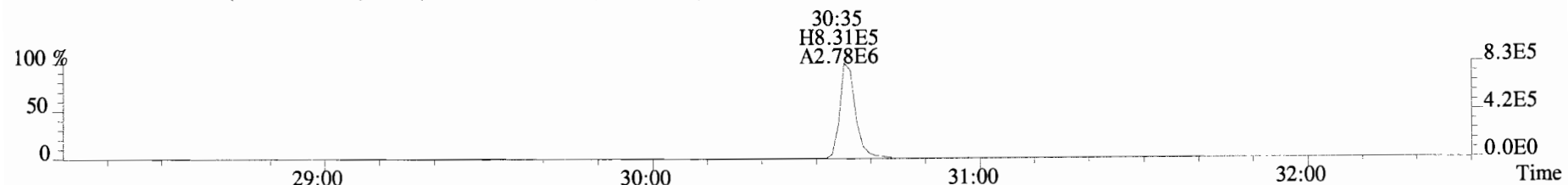
331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



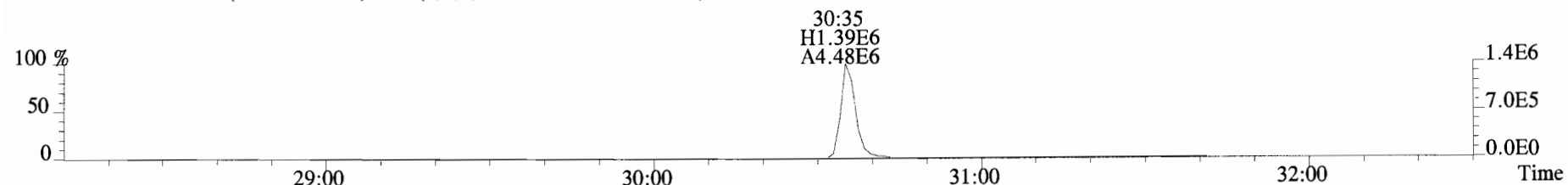
333.9339 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



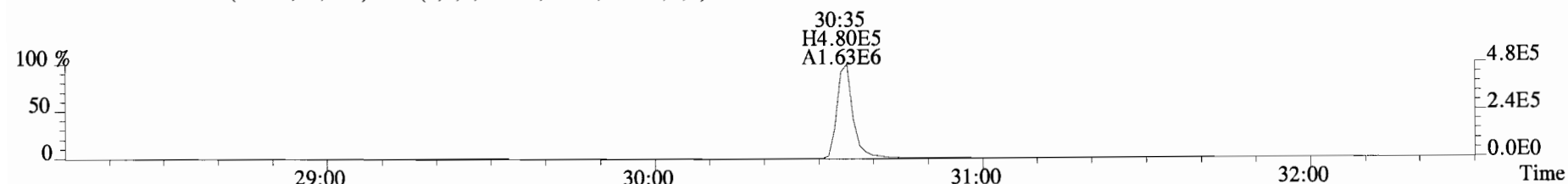
File:190510D2 #1-180 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
353.8576 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



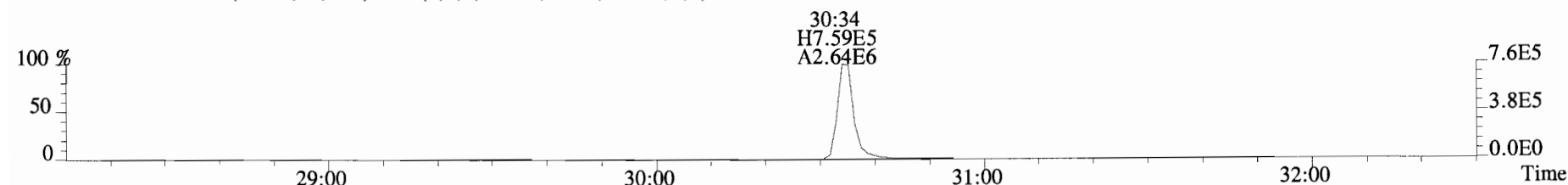
355.8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



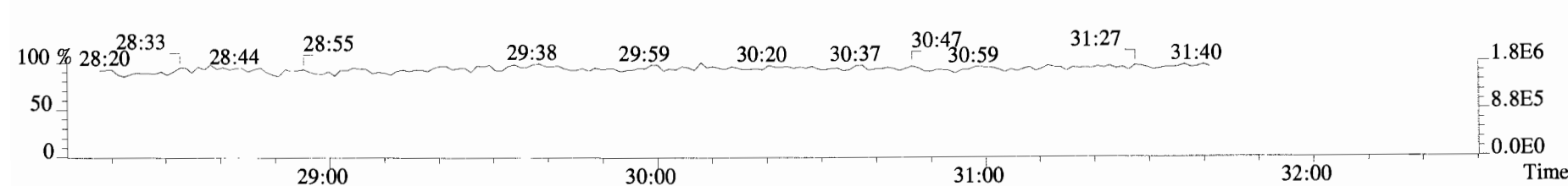
365.8978 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



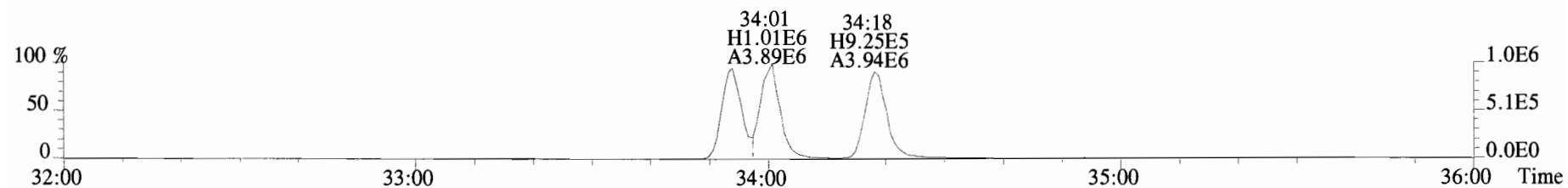
367.8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



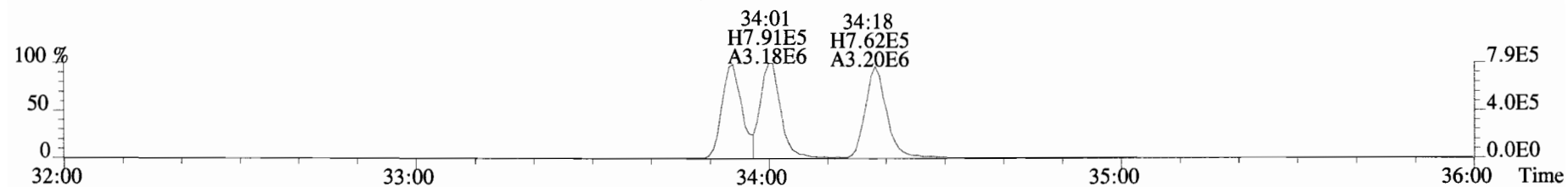
366.9792 S:5 F:2



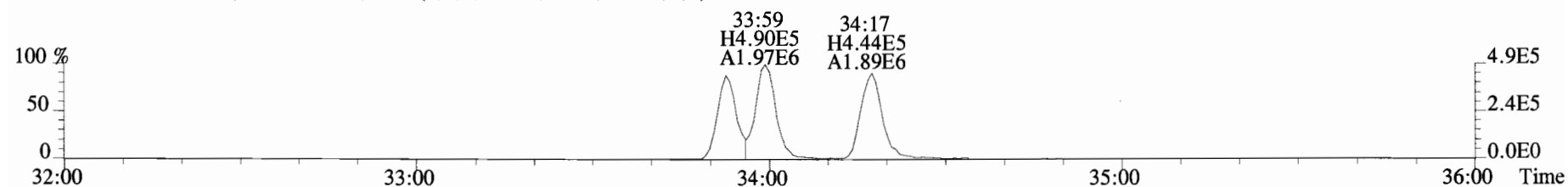
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



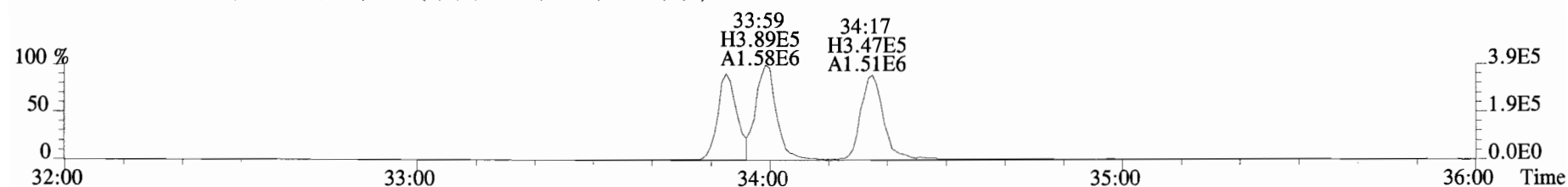
391.8127 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



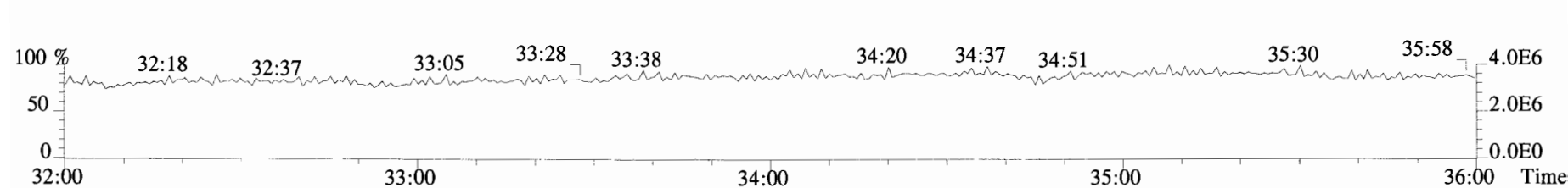
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



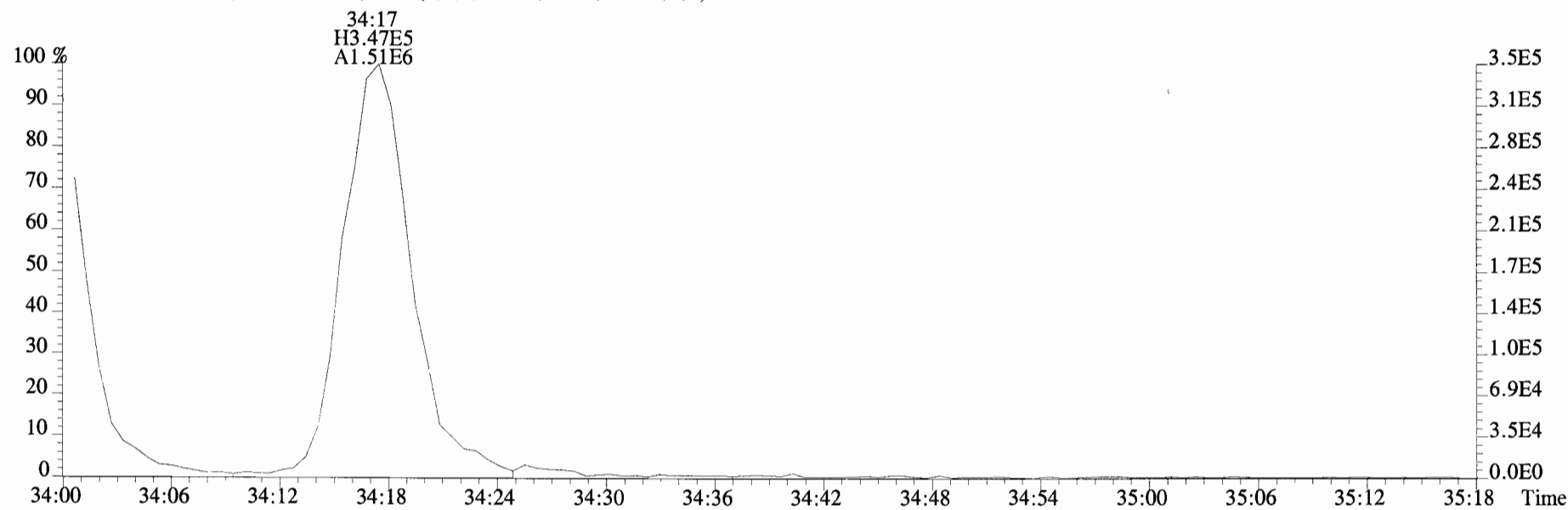
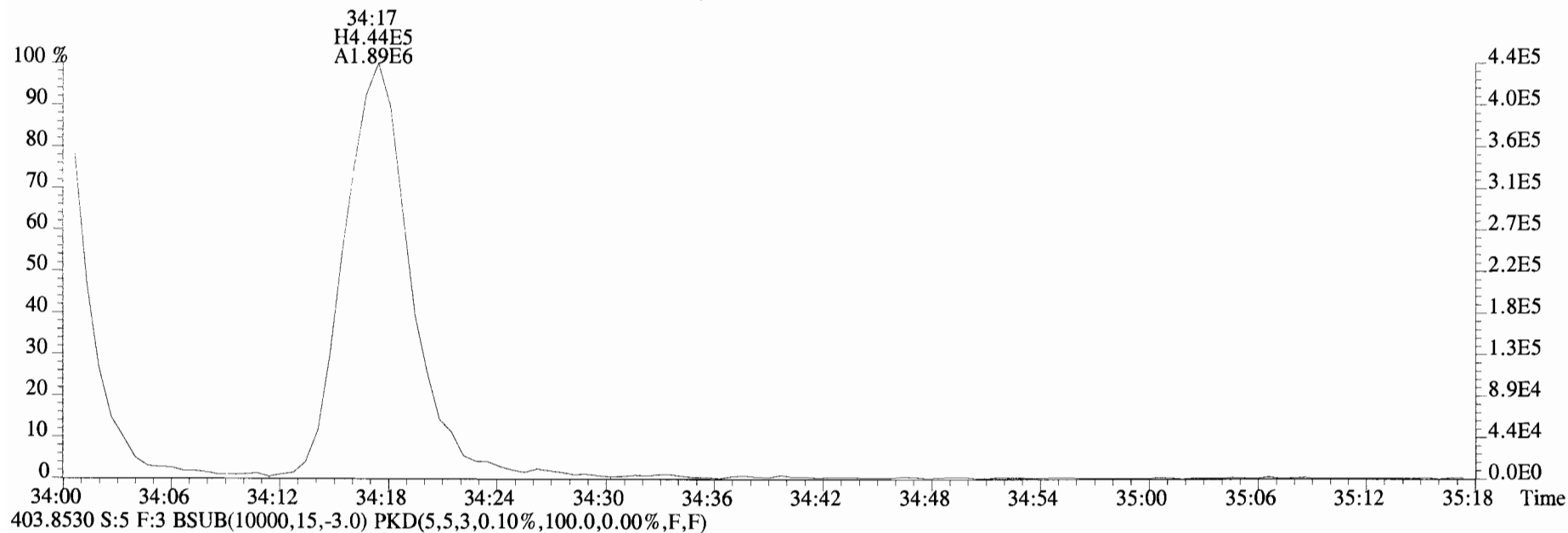
403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



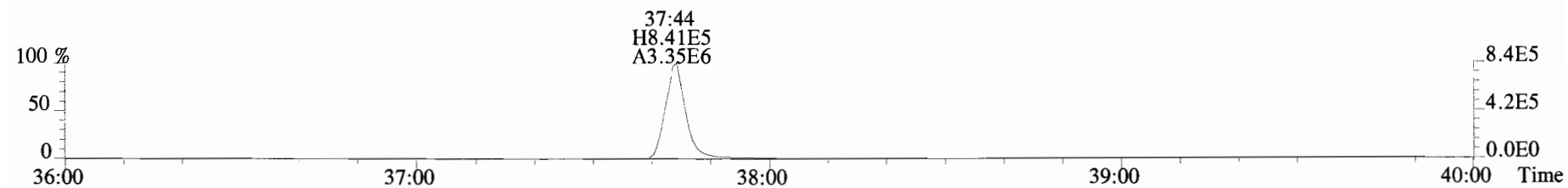
392.9760 S:5 F:3



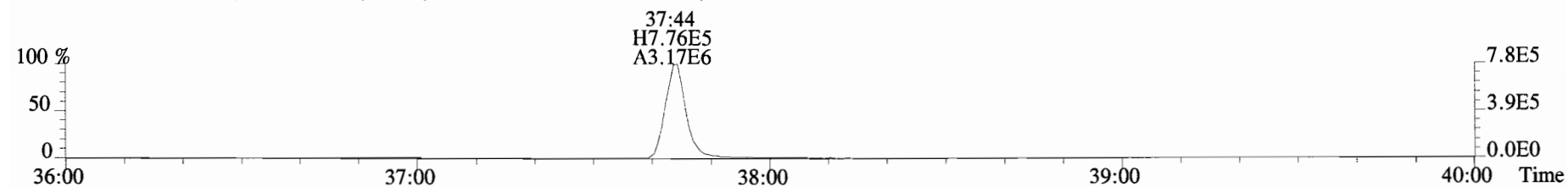
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



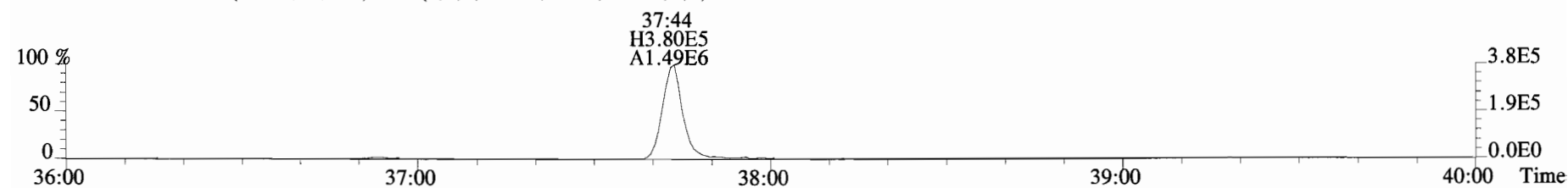
File:190510D2 #1-355 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



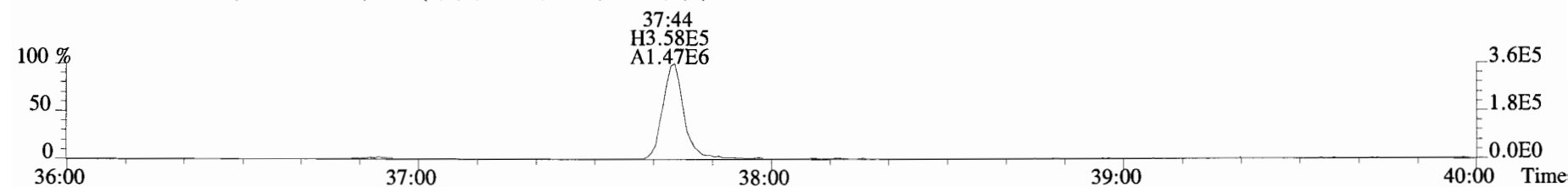
425.7737 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



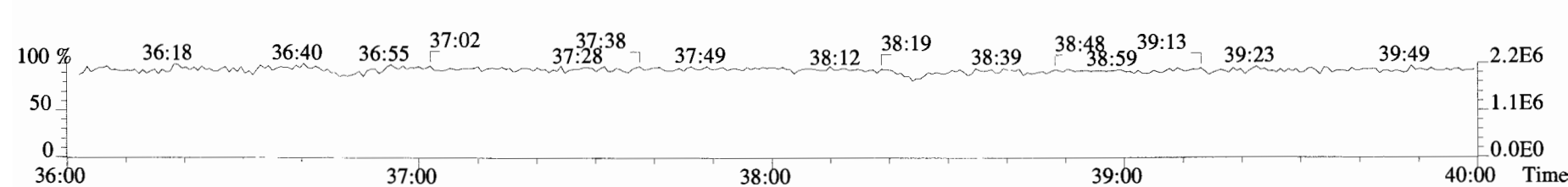
435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



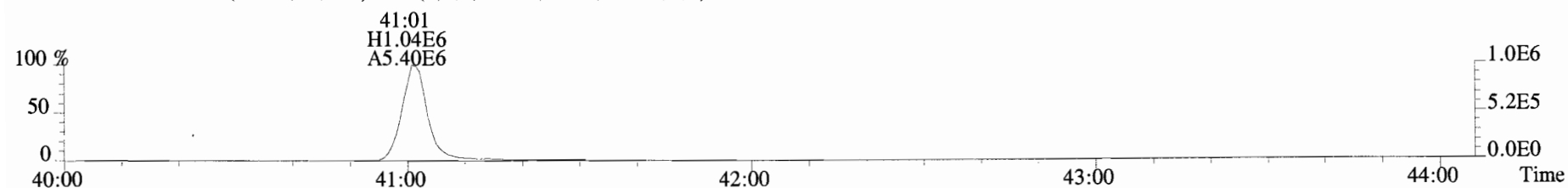
437.8140 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



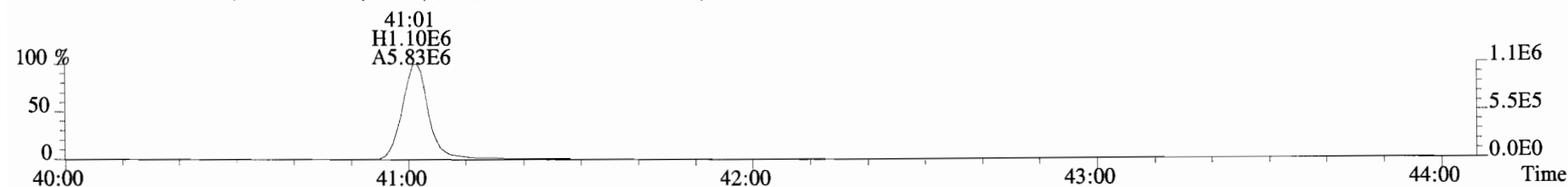
454.9728 S:5 F:4



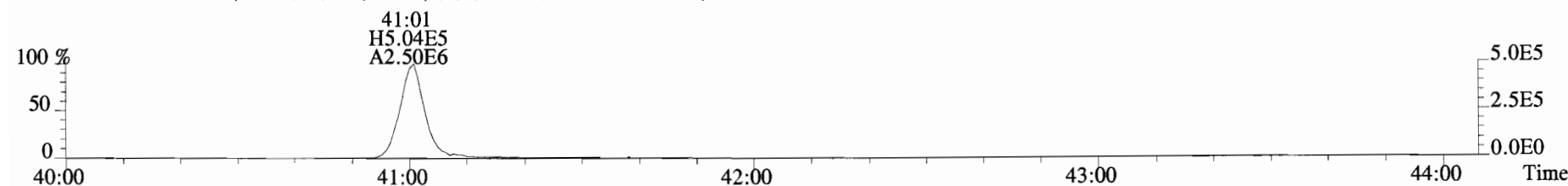
File:190510D2 #1-432 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



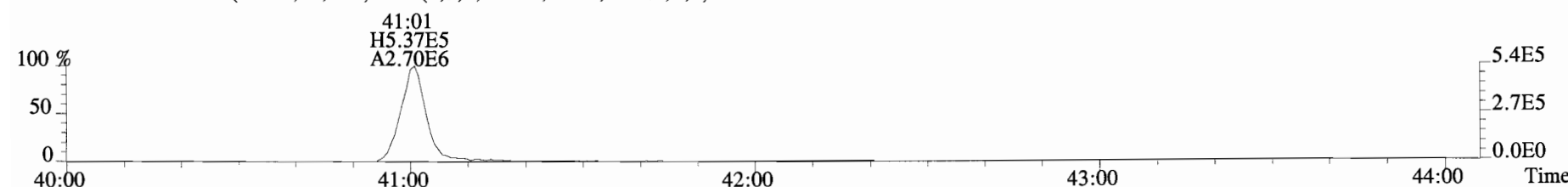
459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



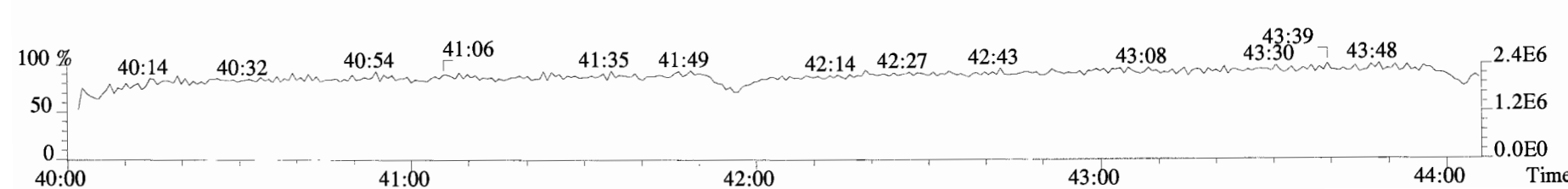
469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



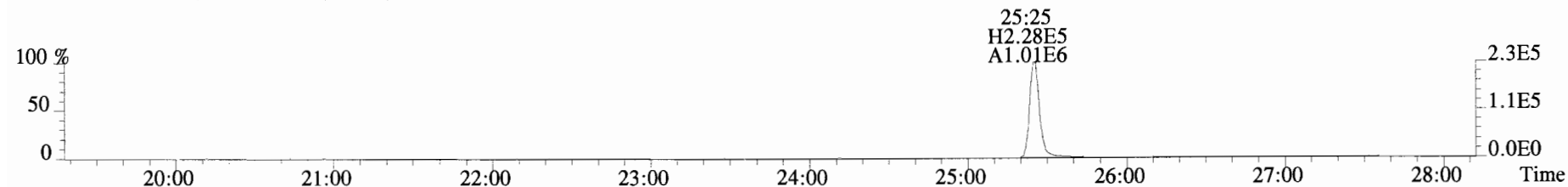
471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



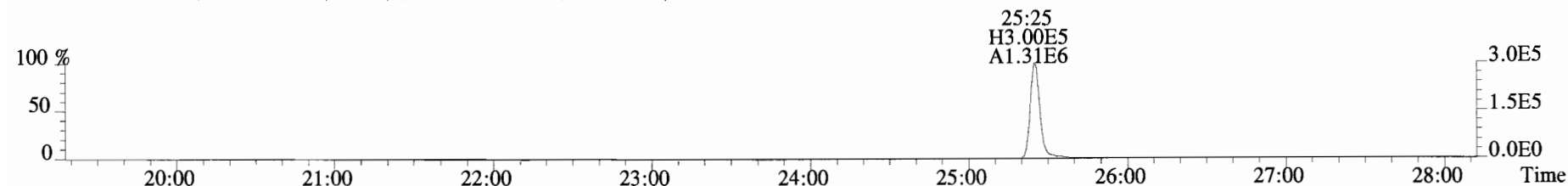
454.9728 S:5 F:5



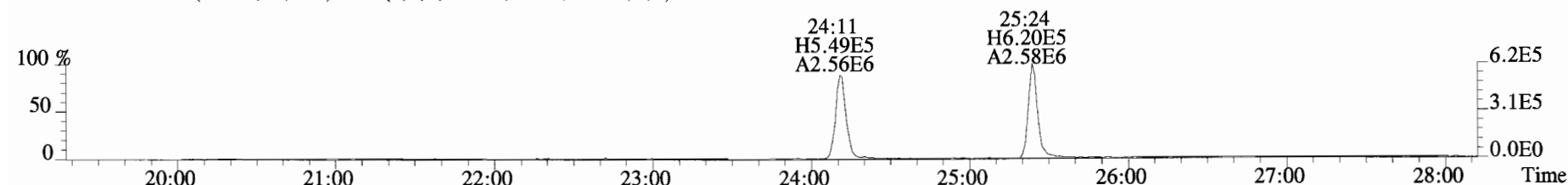
File:190510D2 #1-530 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



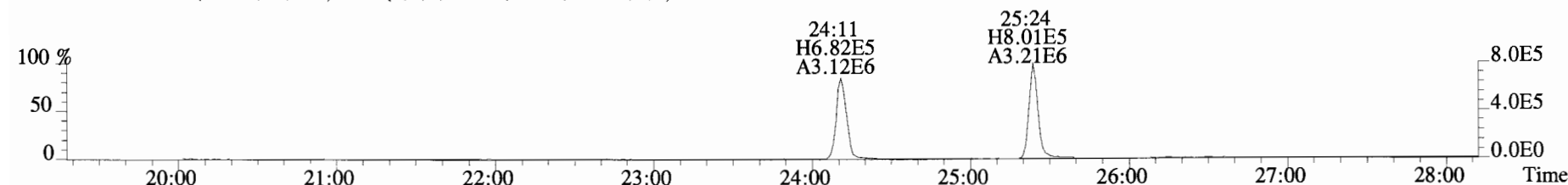
305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



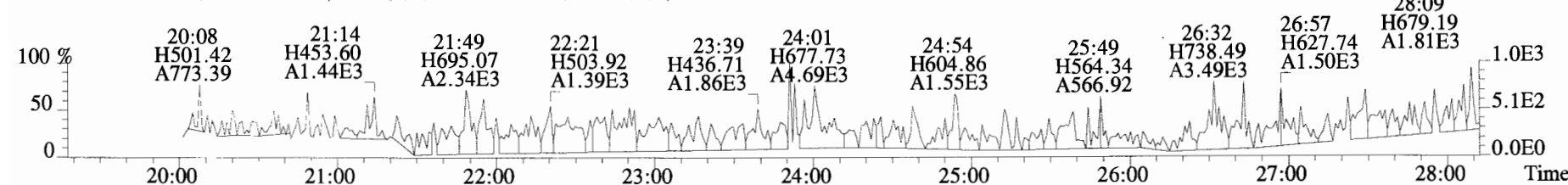
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



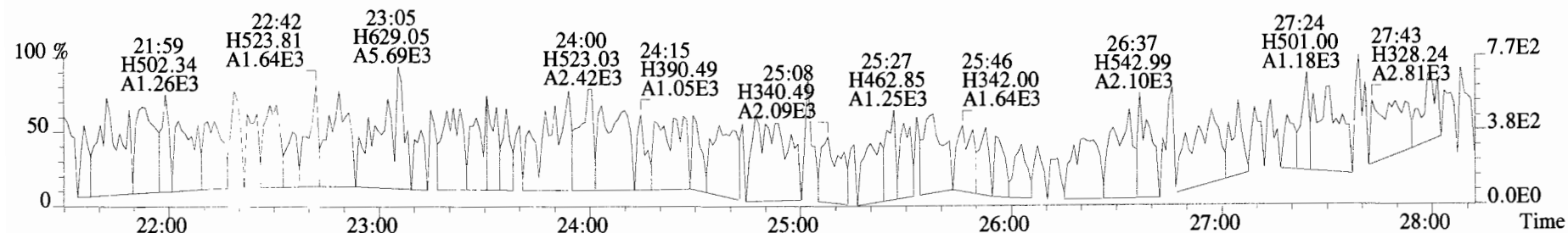
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



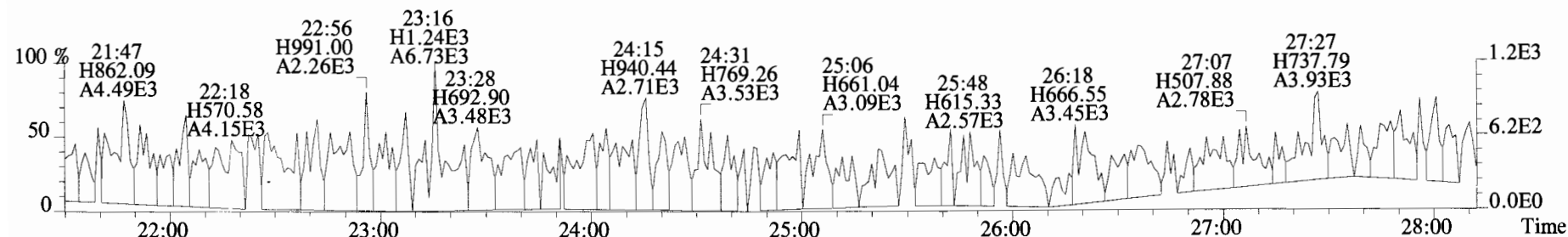
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



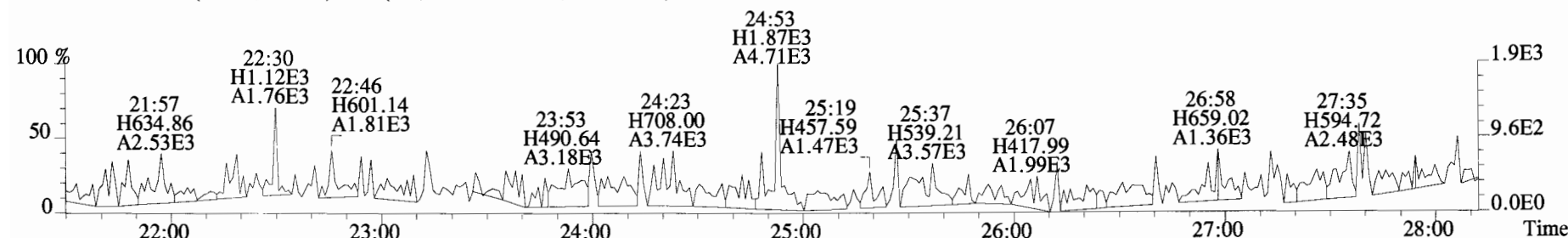
File:190510D2 #1-530 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



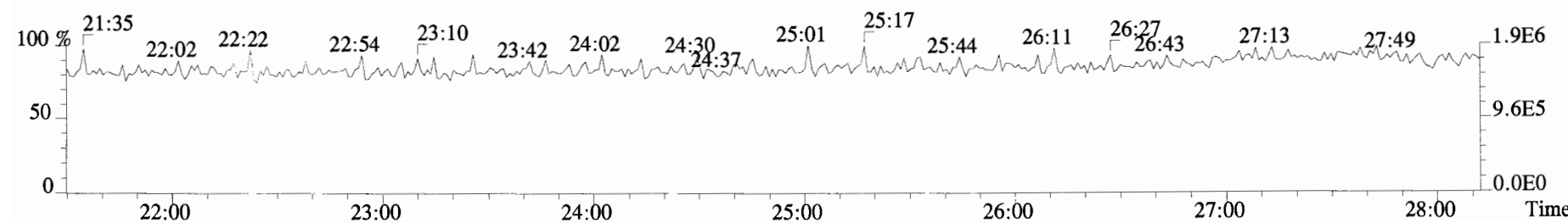
341.8568 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



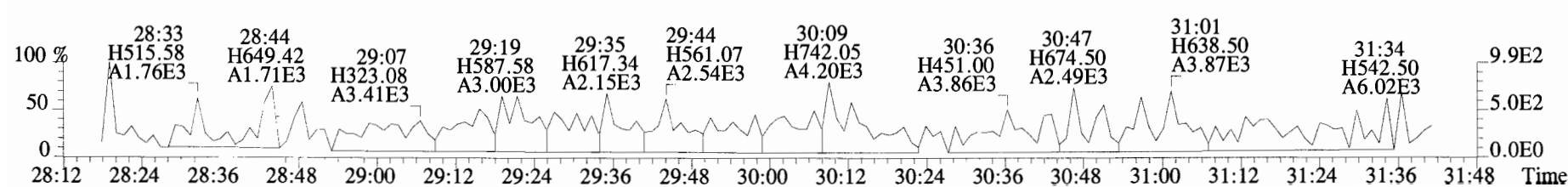
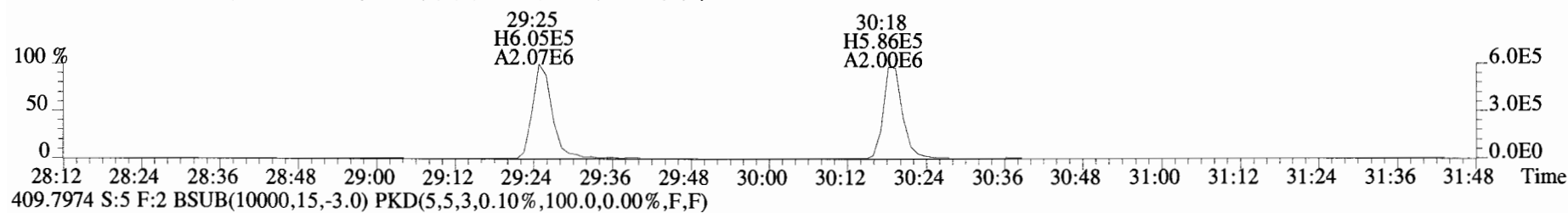
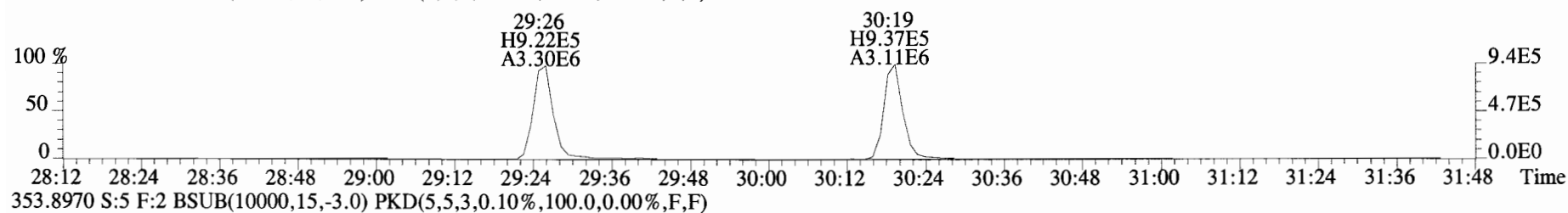
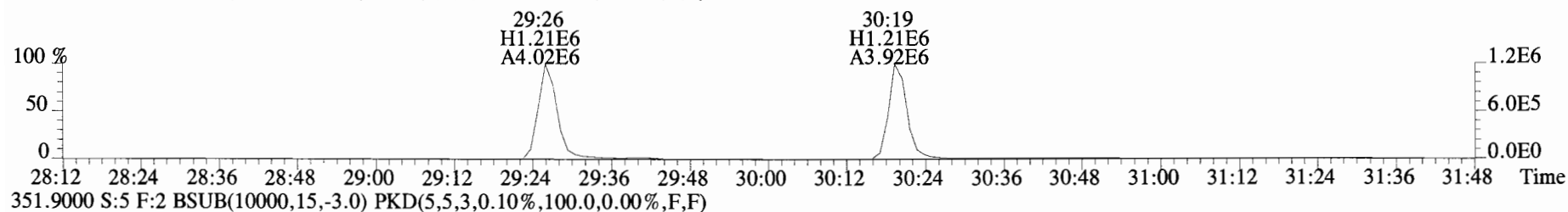
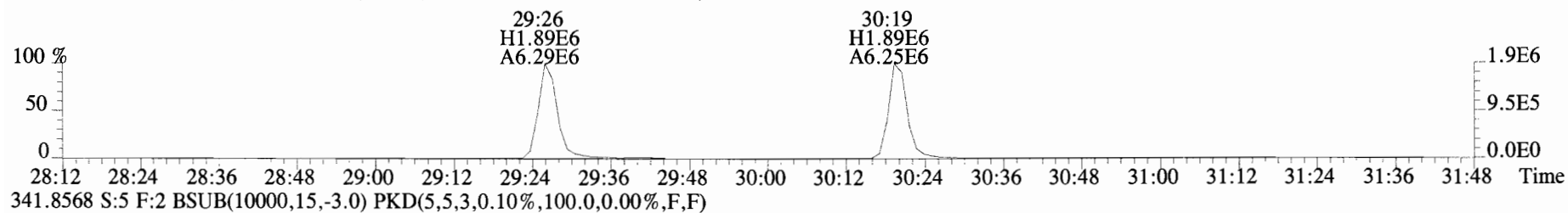
409.7974 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



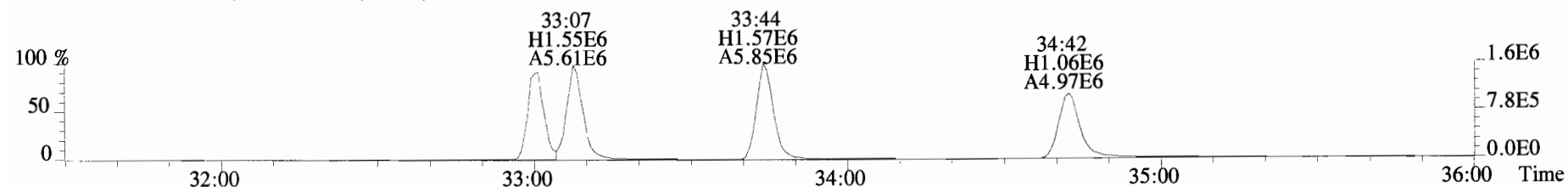
316.9824 S:5



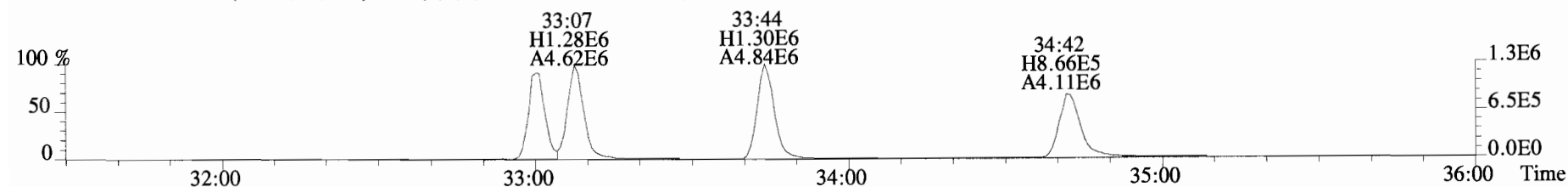
File:190510D2 #1-180 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



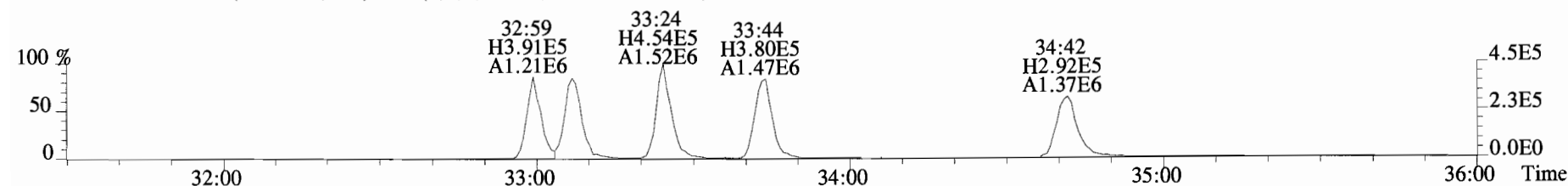
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



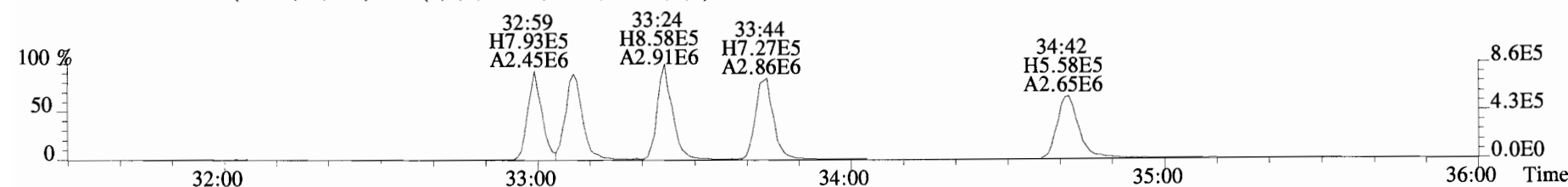
375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



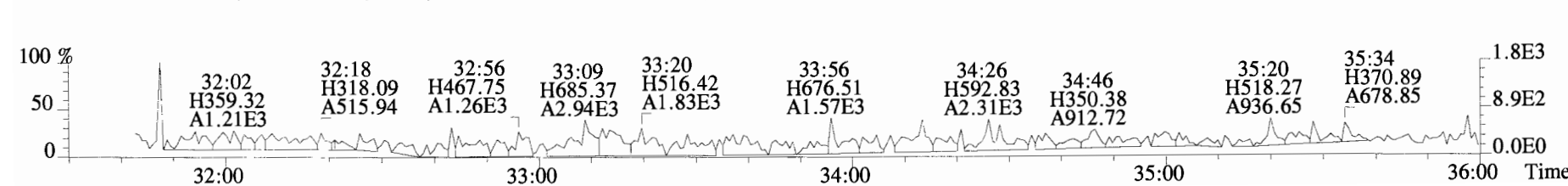
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



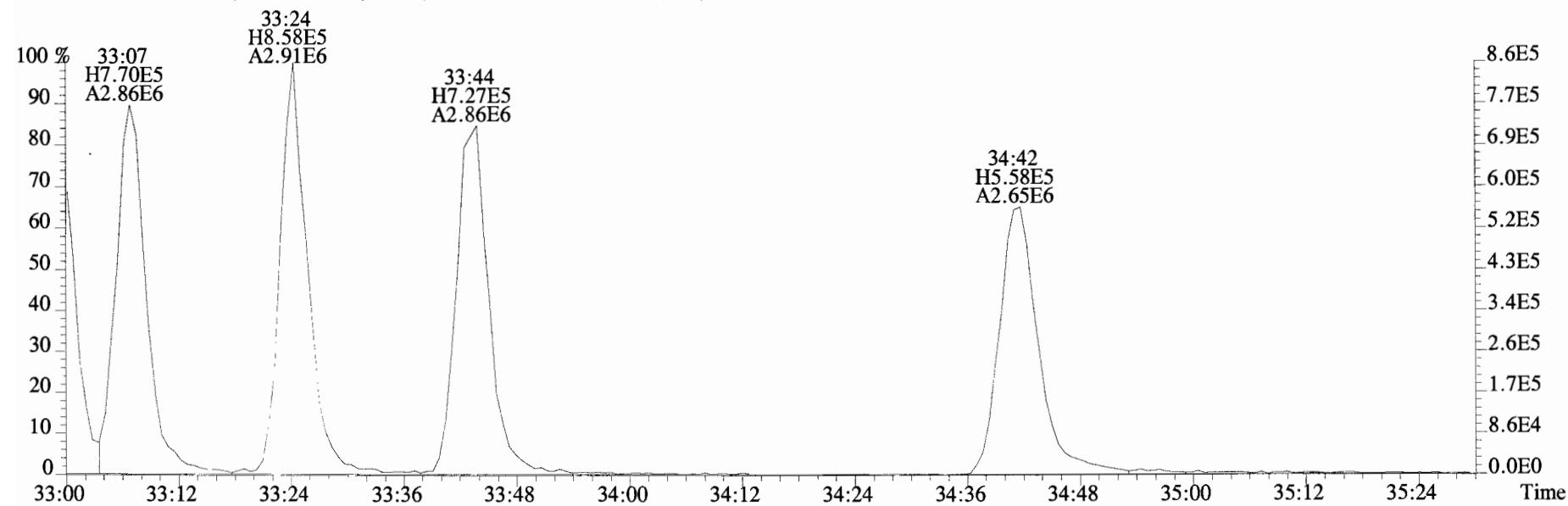
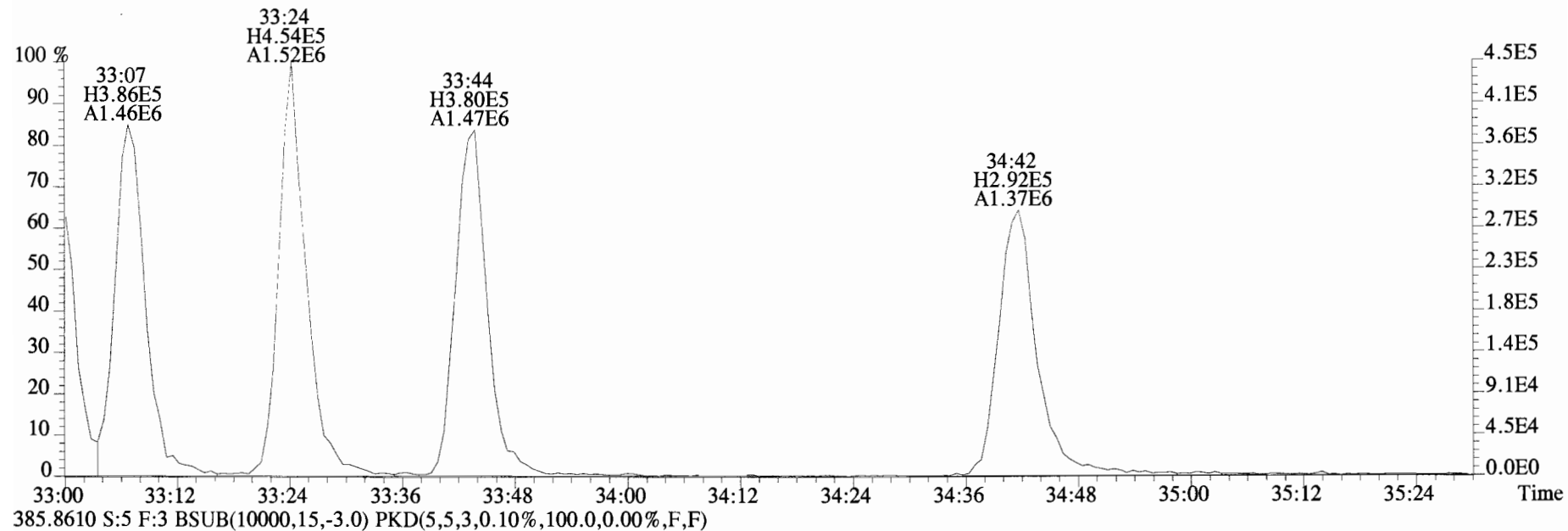
385.8610 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



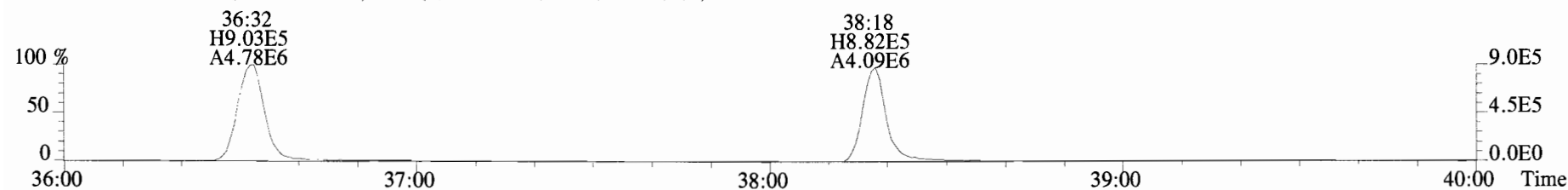
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



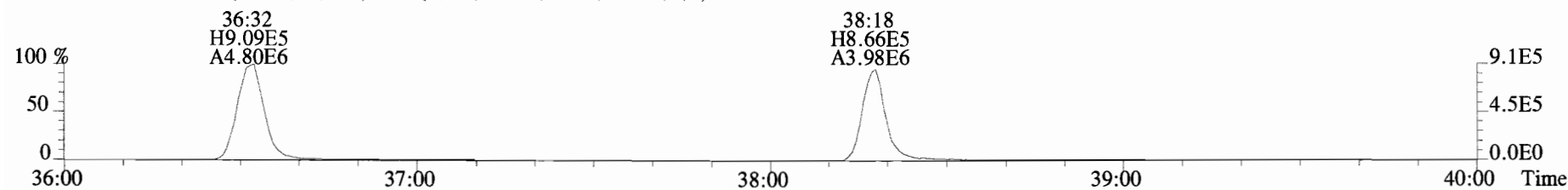
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



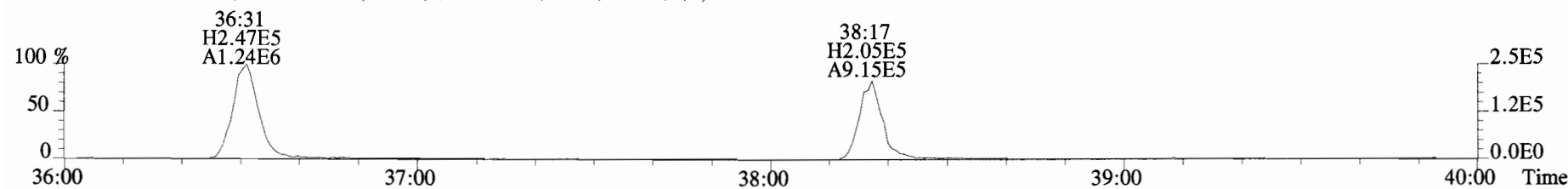
File:190510D2 #1-355 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



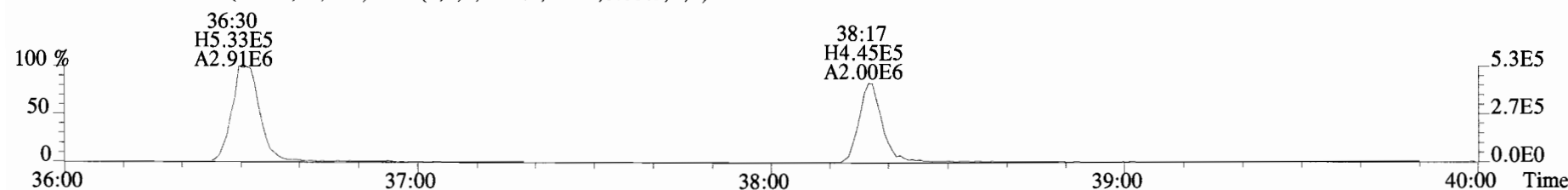
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



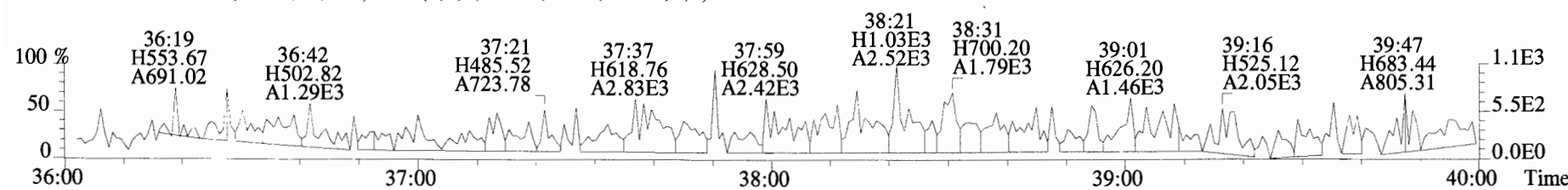
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



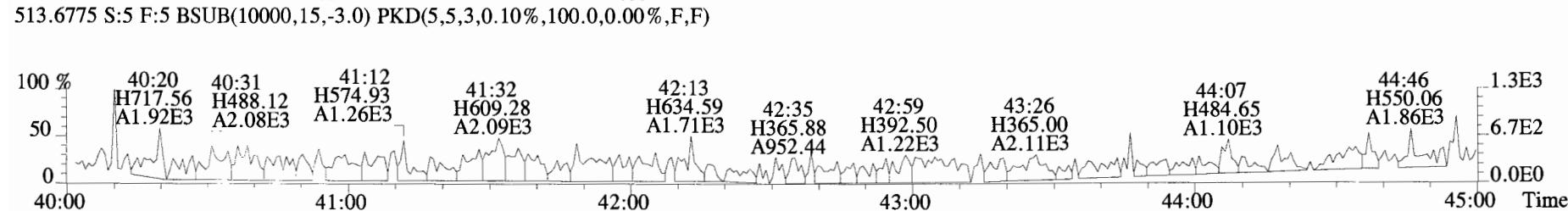
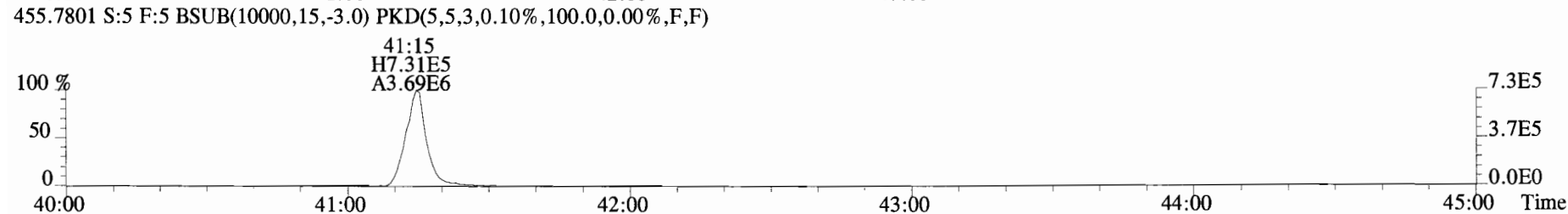
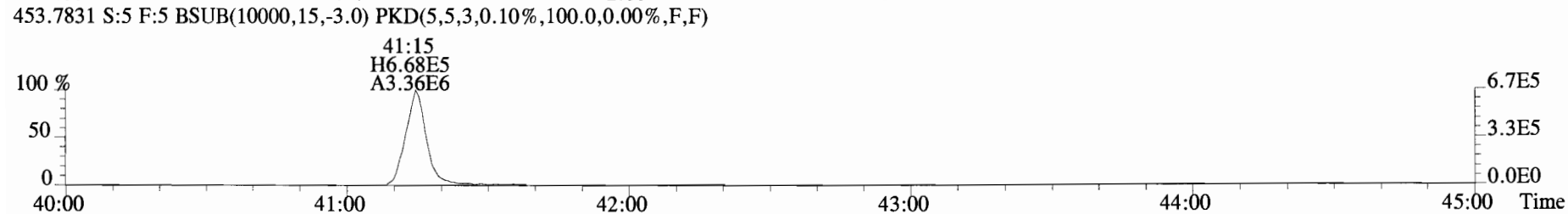
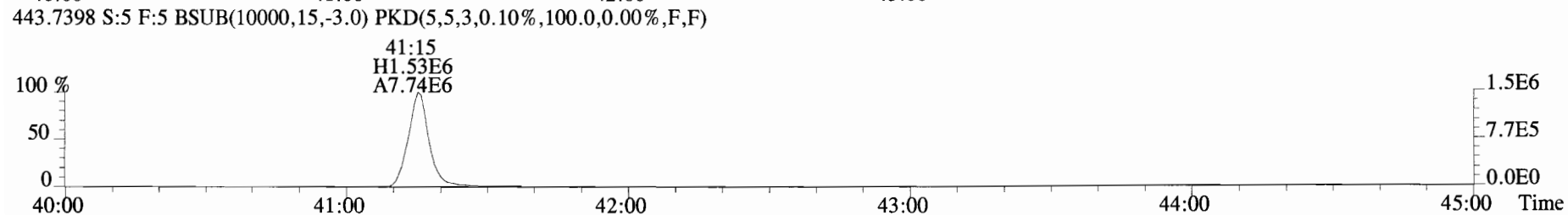
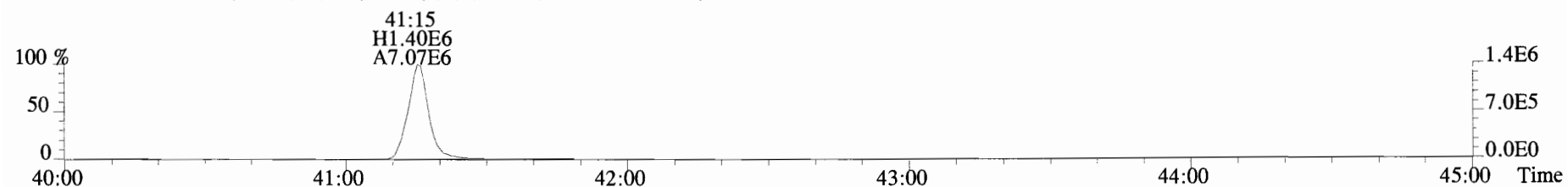
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



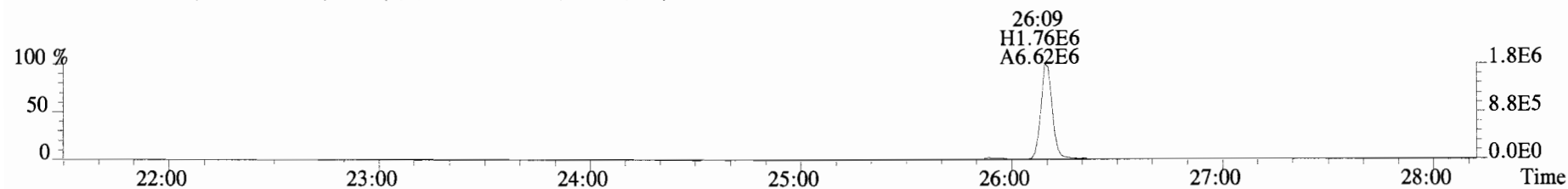
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



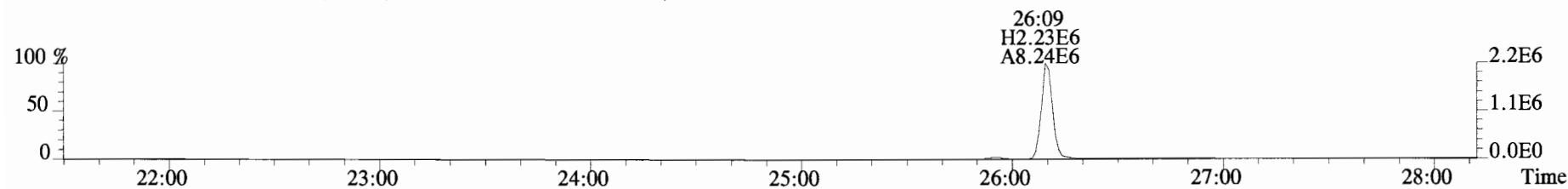
File:190510D2 #1-432 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



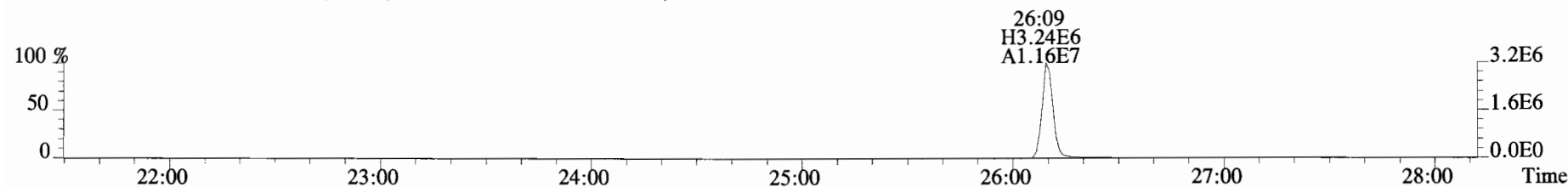
File:190510D2 #1-530 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



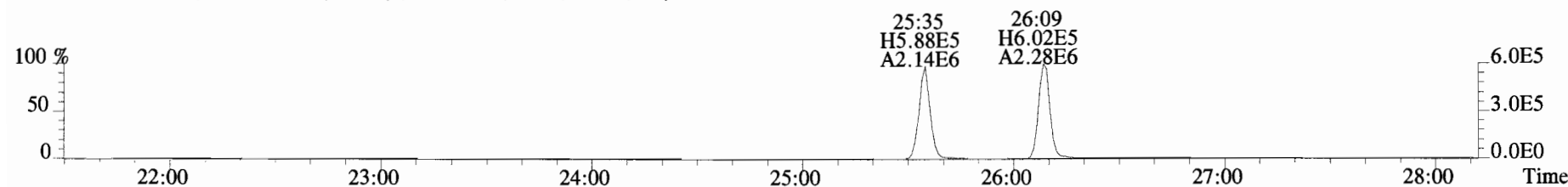
321.8936 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



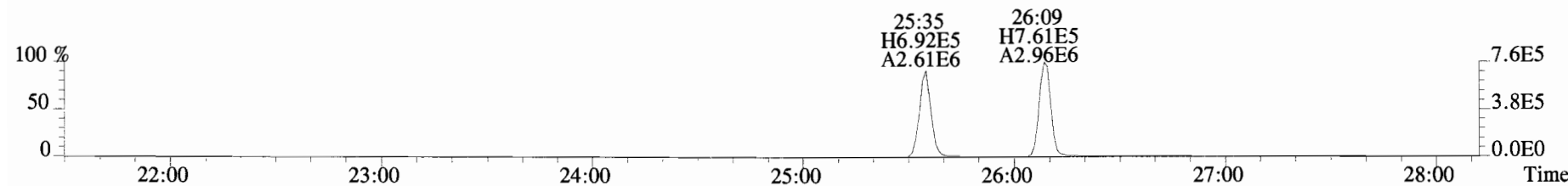
327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



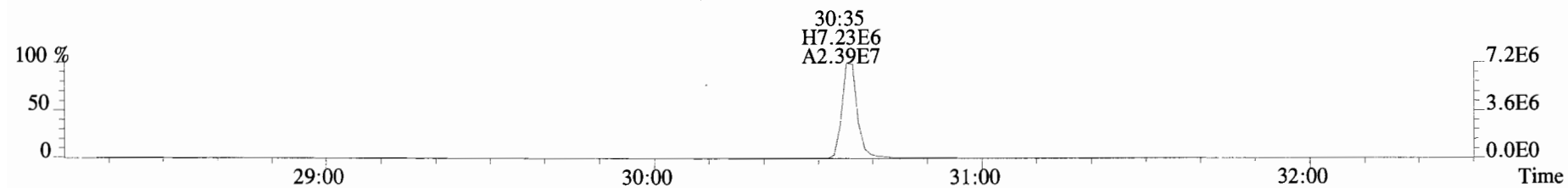
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



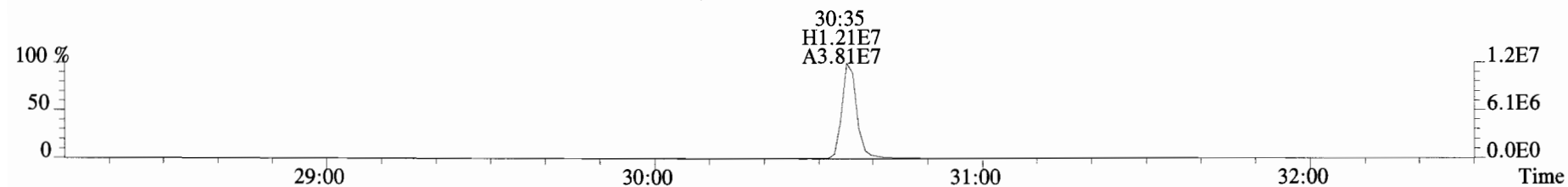
333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



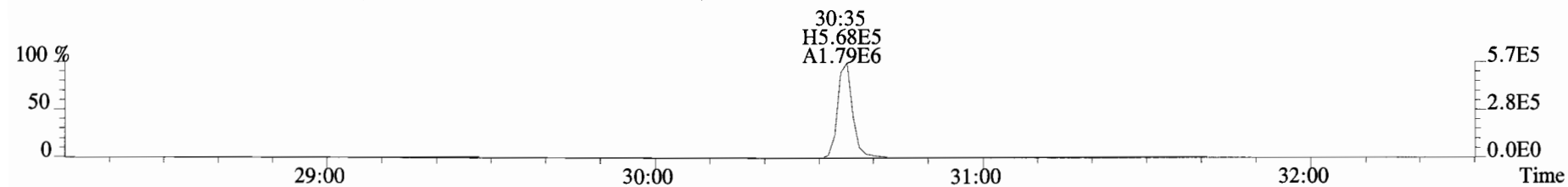
File:190510D2 #1-180 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



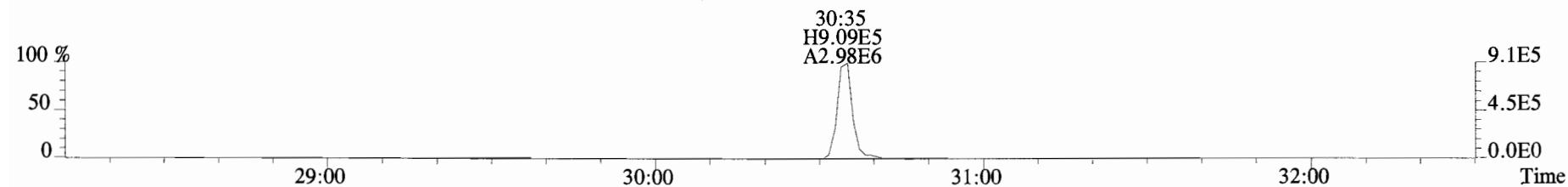
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



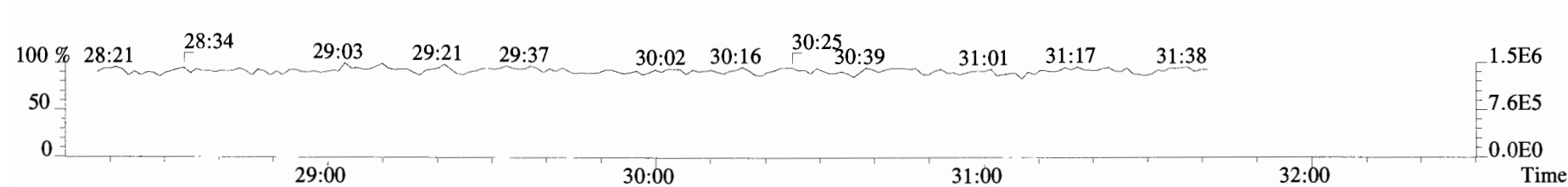
365.8978 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



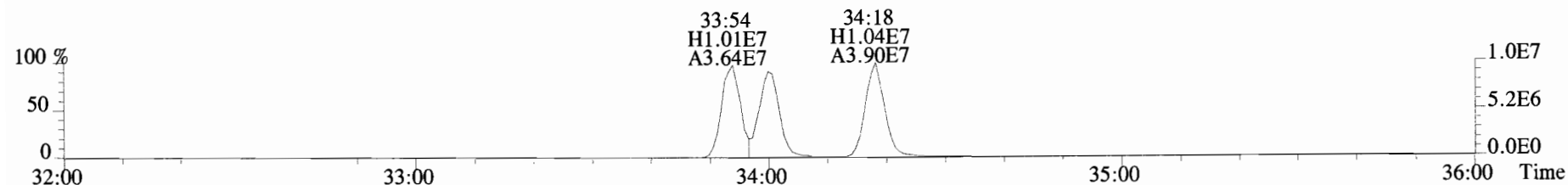
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



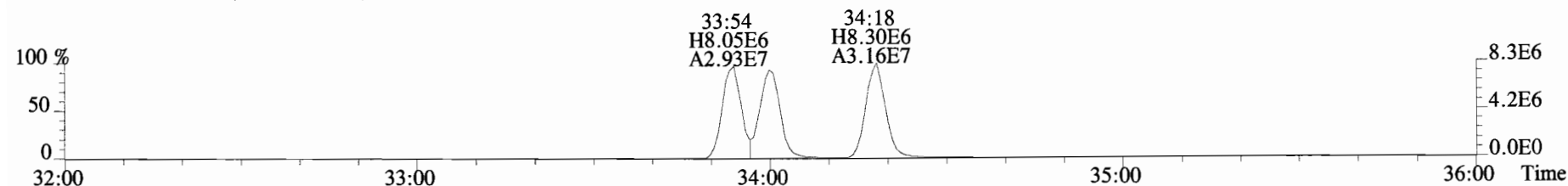
366.9792 S:6 F:2



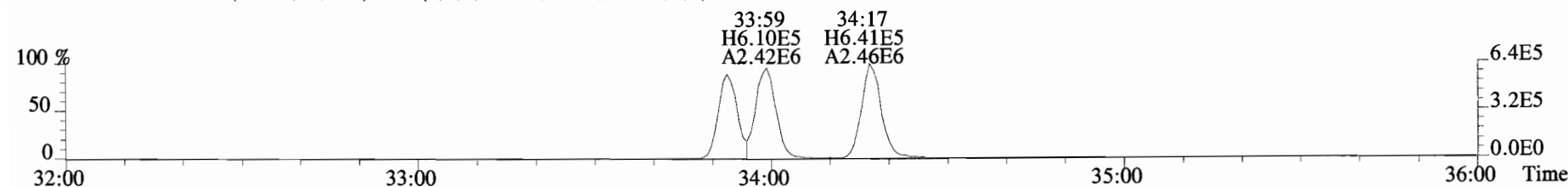
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



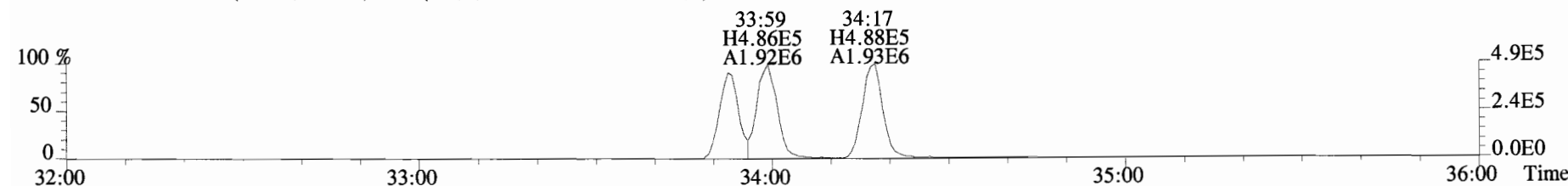
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



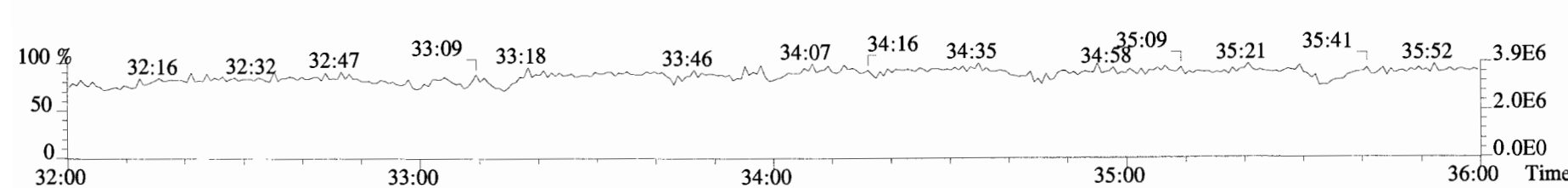
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



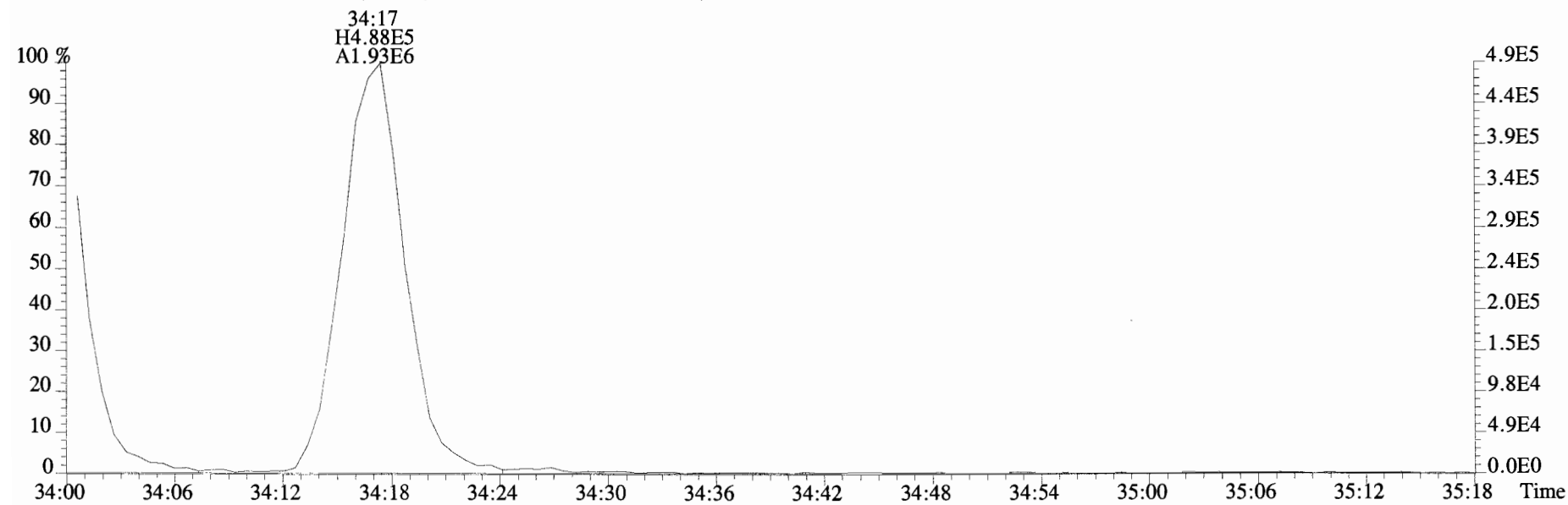
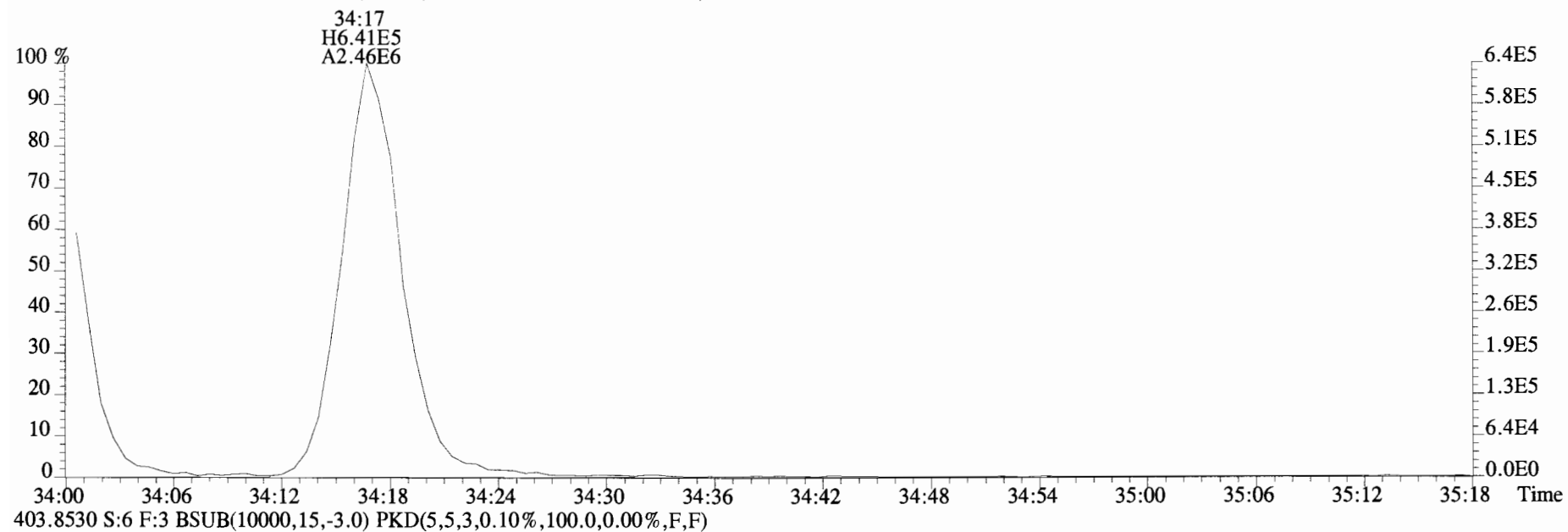
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



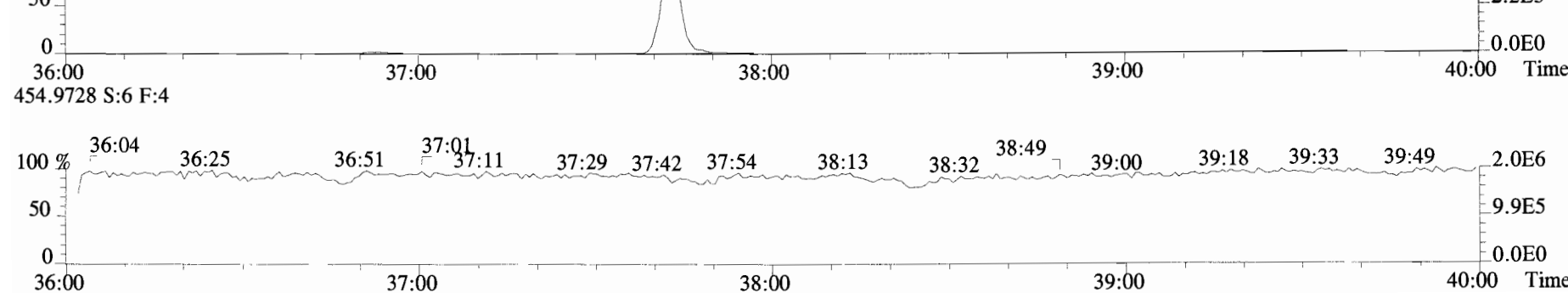
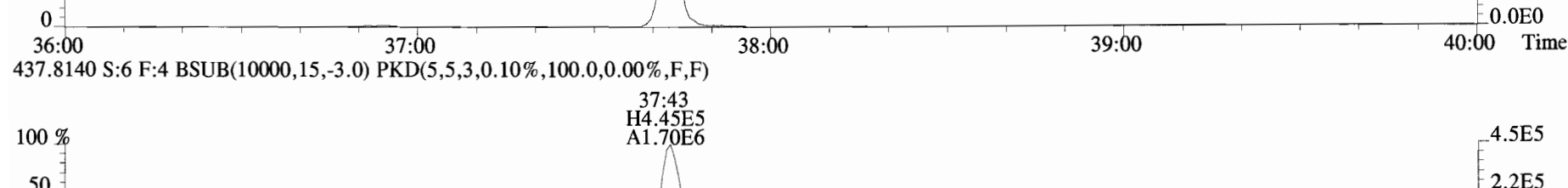
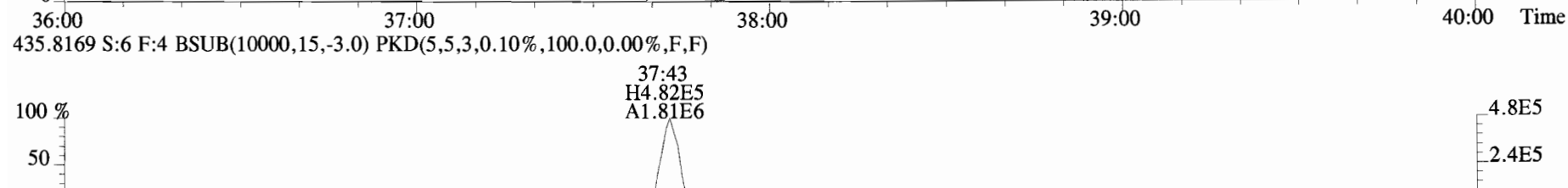
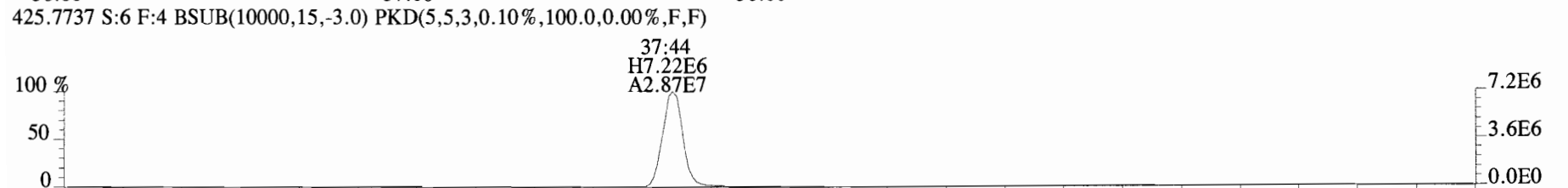
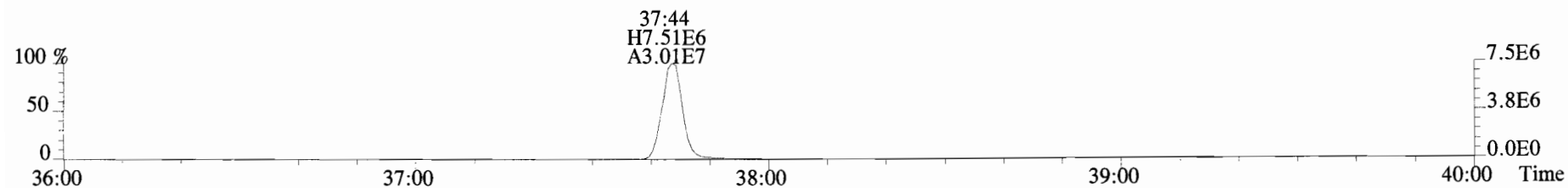
392.9760 S:6 F:3



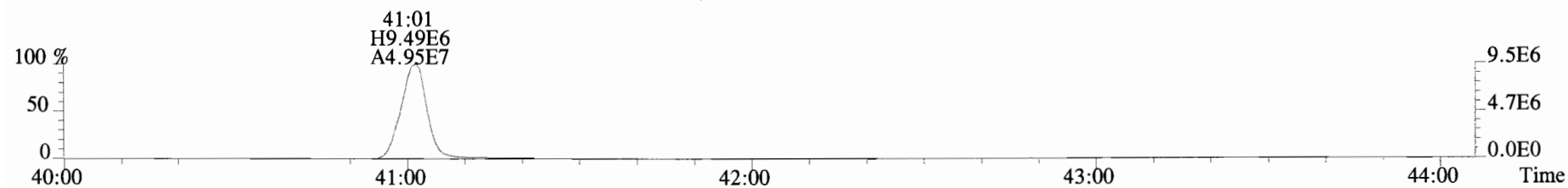
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



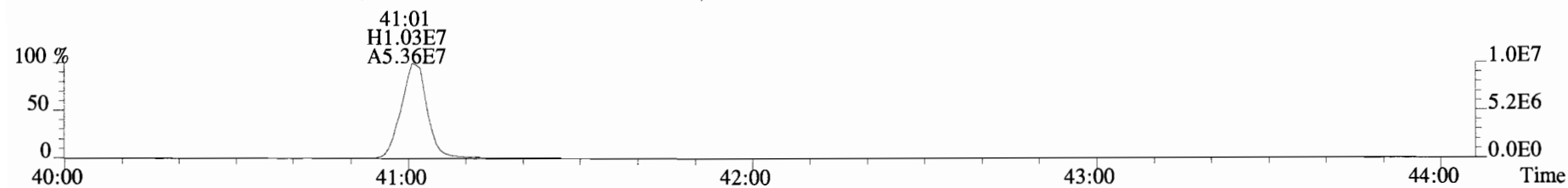
File:190510D2 #1-355 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



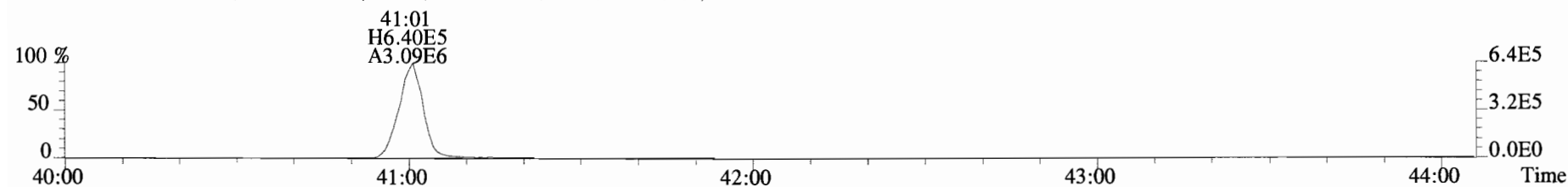
File:190510D2 #1-432 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista_Analytical_Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



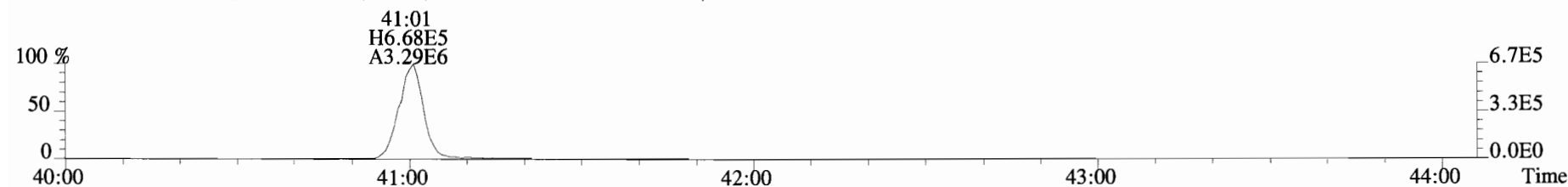
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



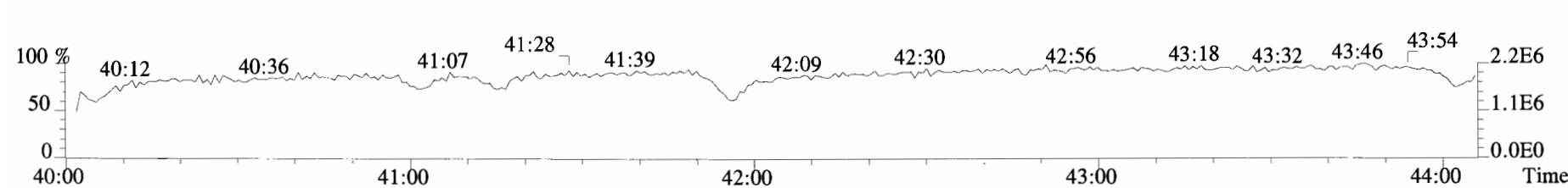
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



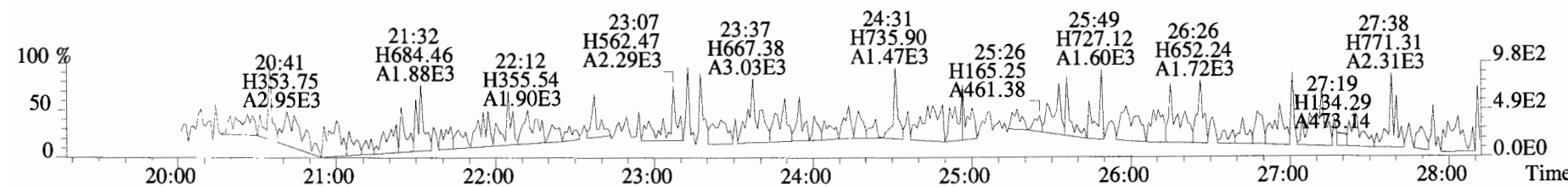
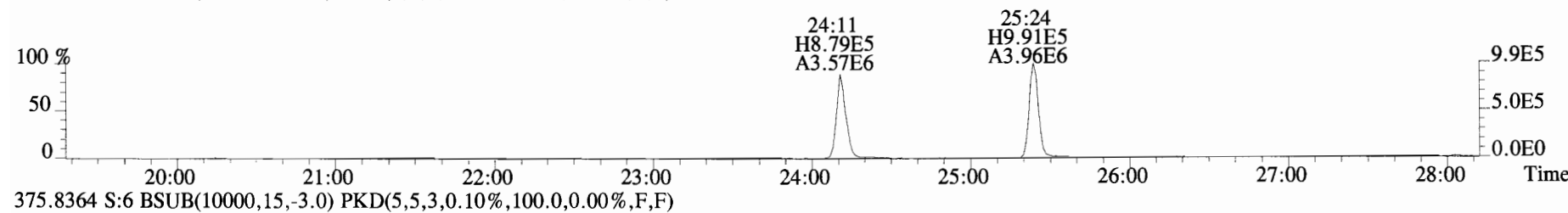
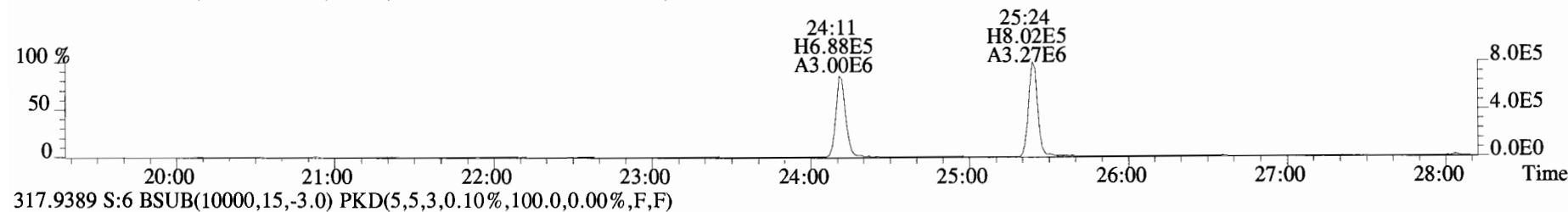
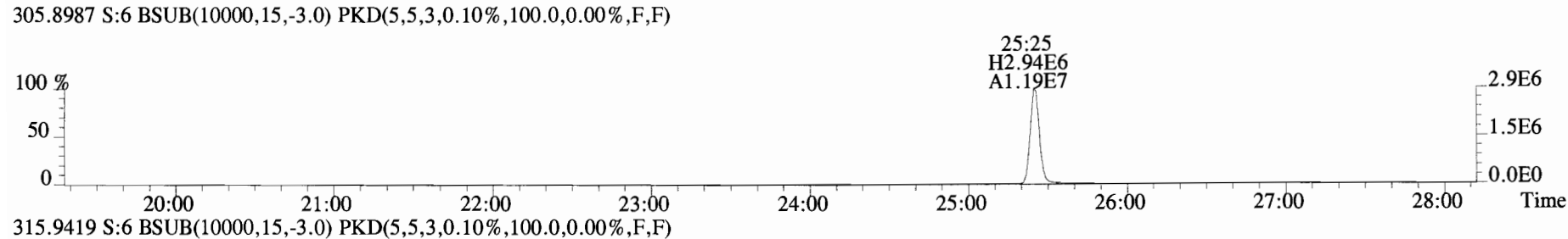
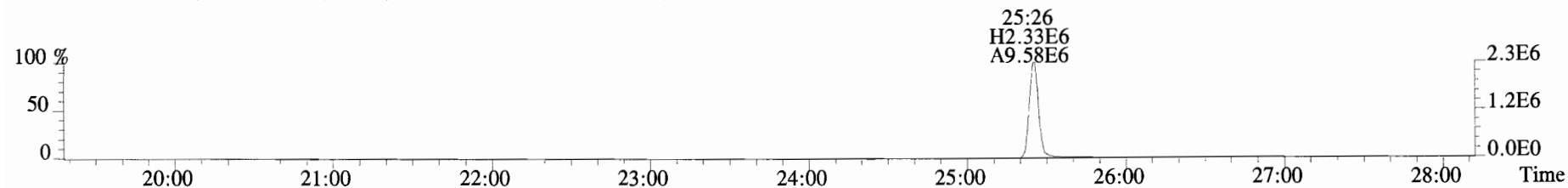
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



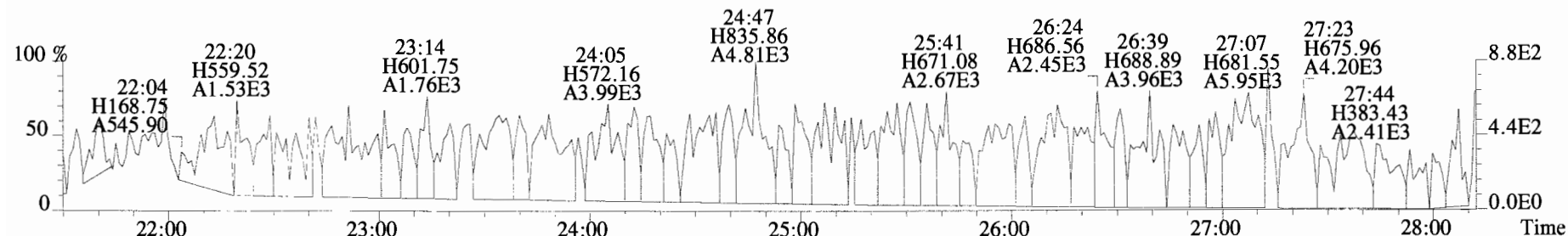
454.9728 S:6 F:5



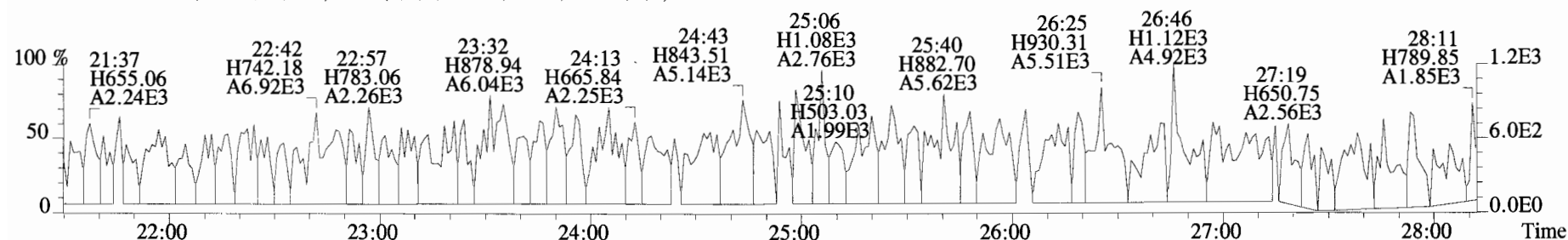
File:190510D2 #1-530 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



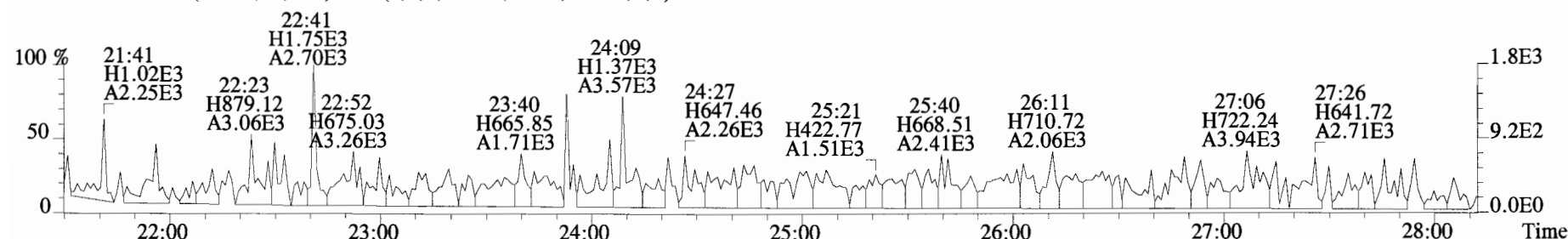
File:190510D2 #1-530 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



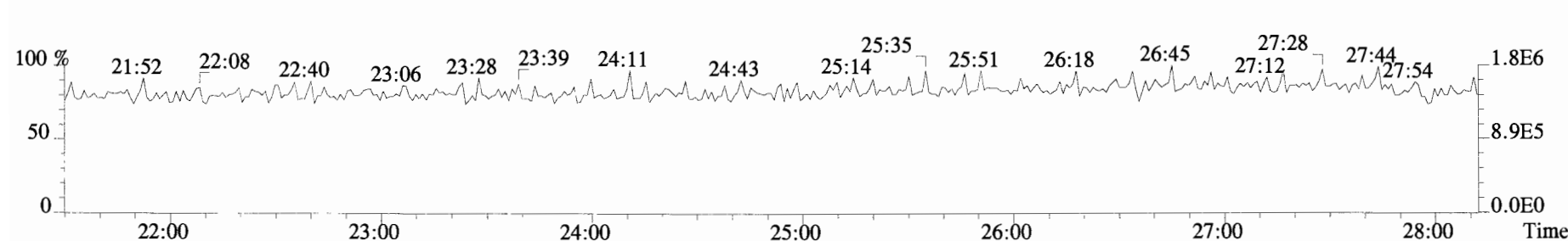
341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



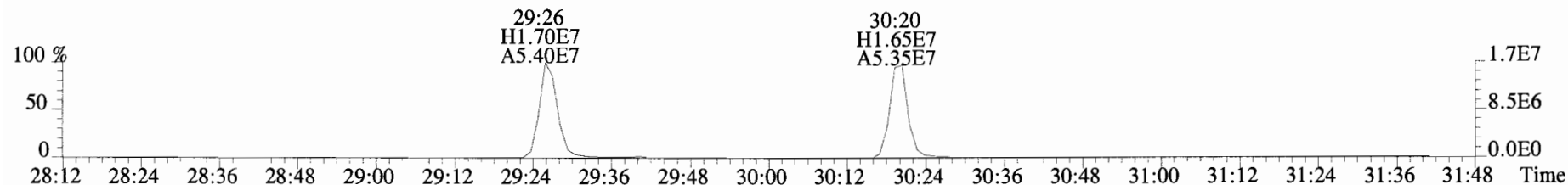
409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



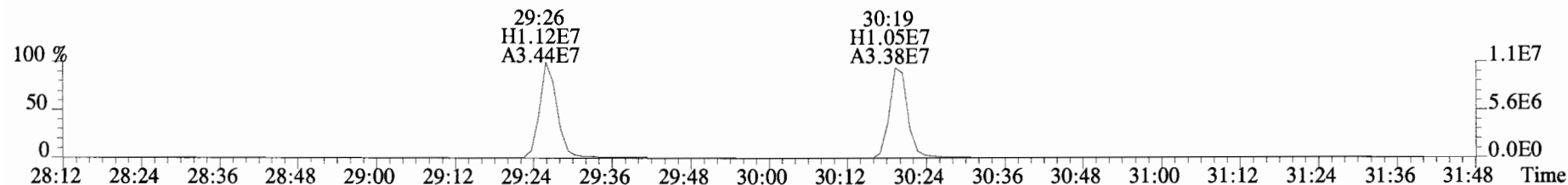
316.9824 S:6



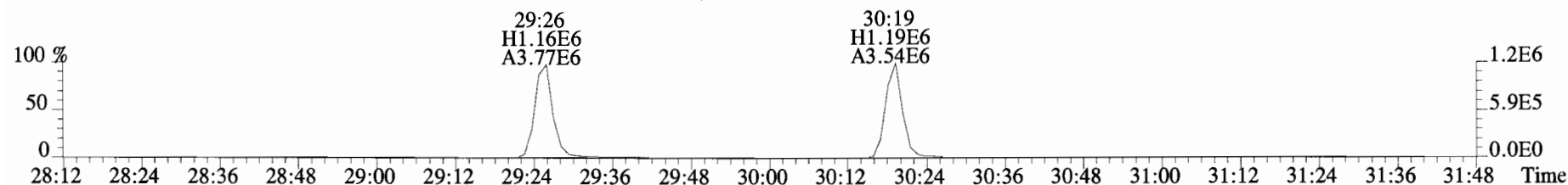
File:190510D2 #1-180 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



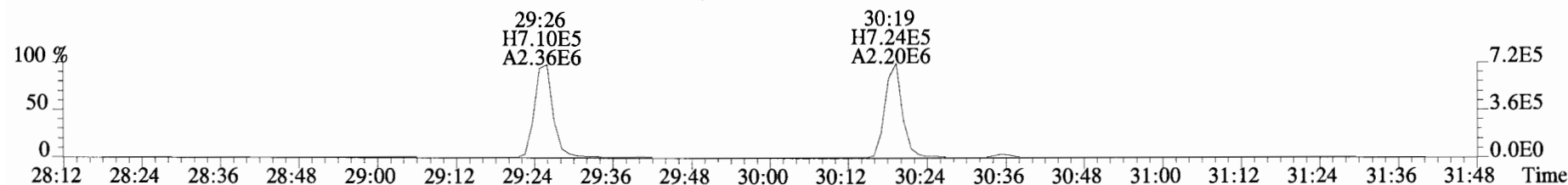
341.8568 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



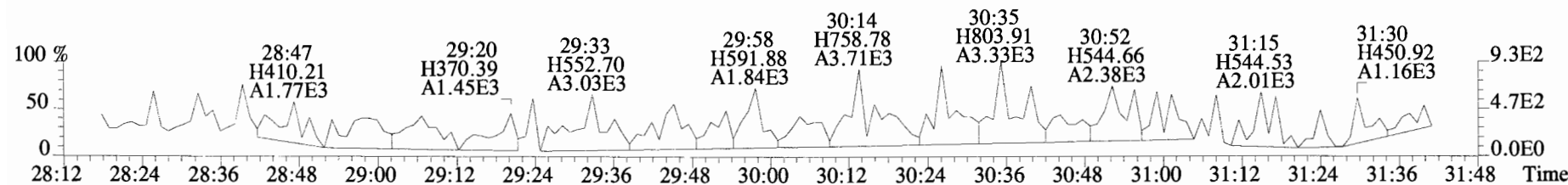
351.9000 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



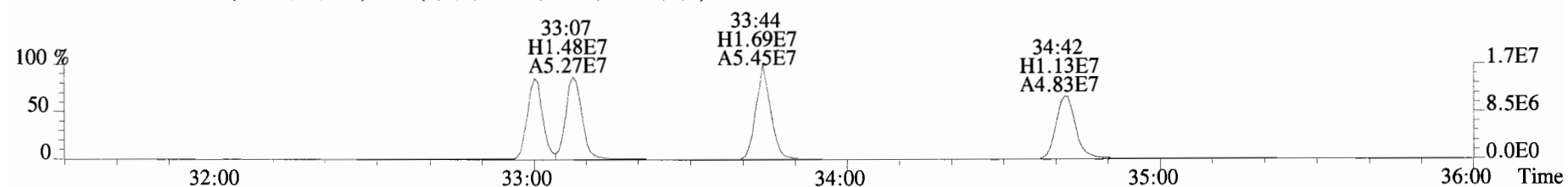
353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



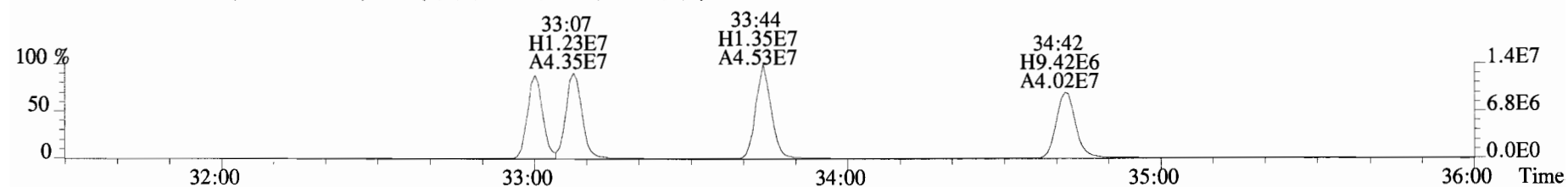
409.7974 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



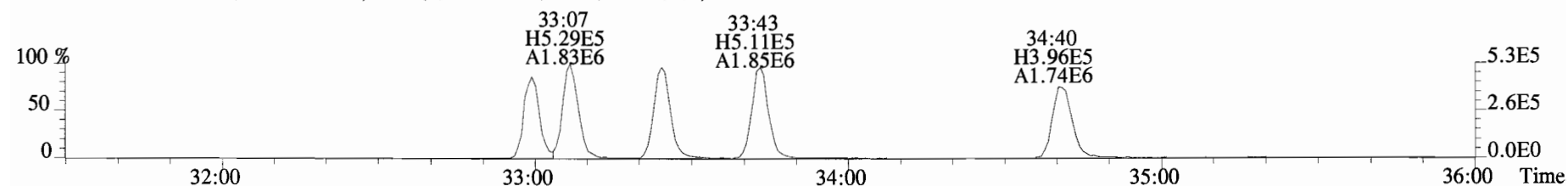
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



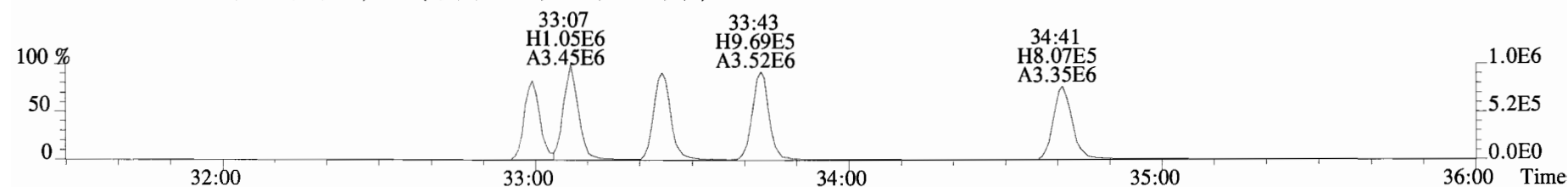
375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



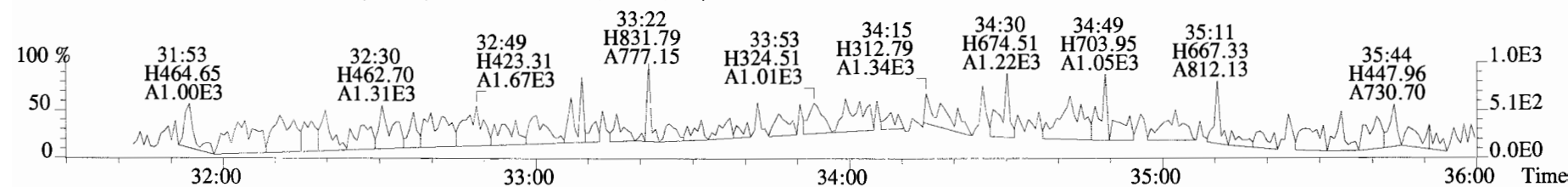
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



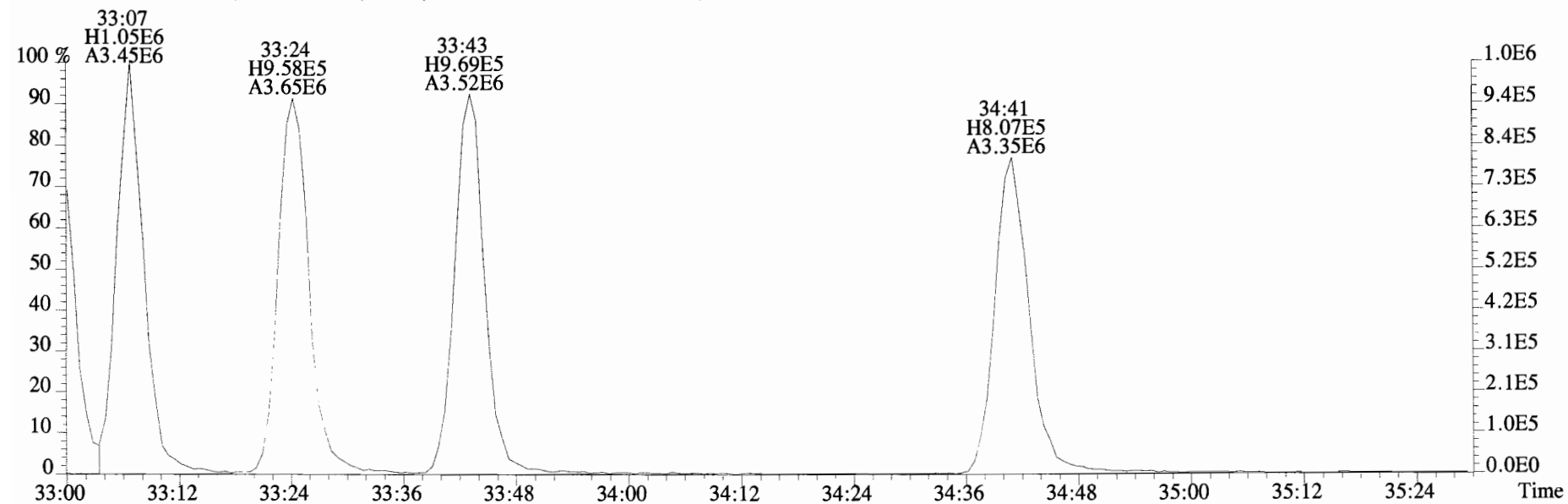
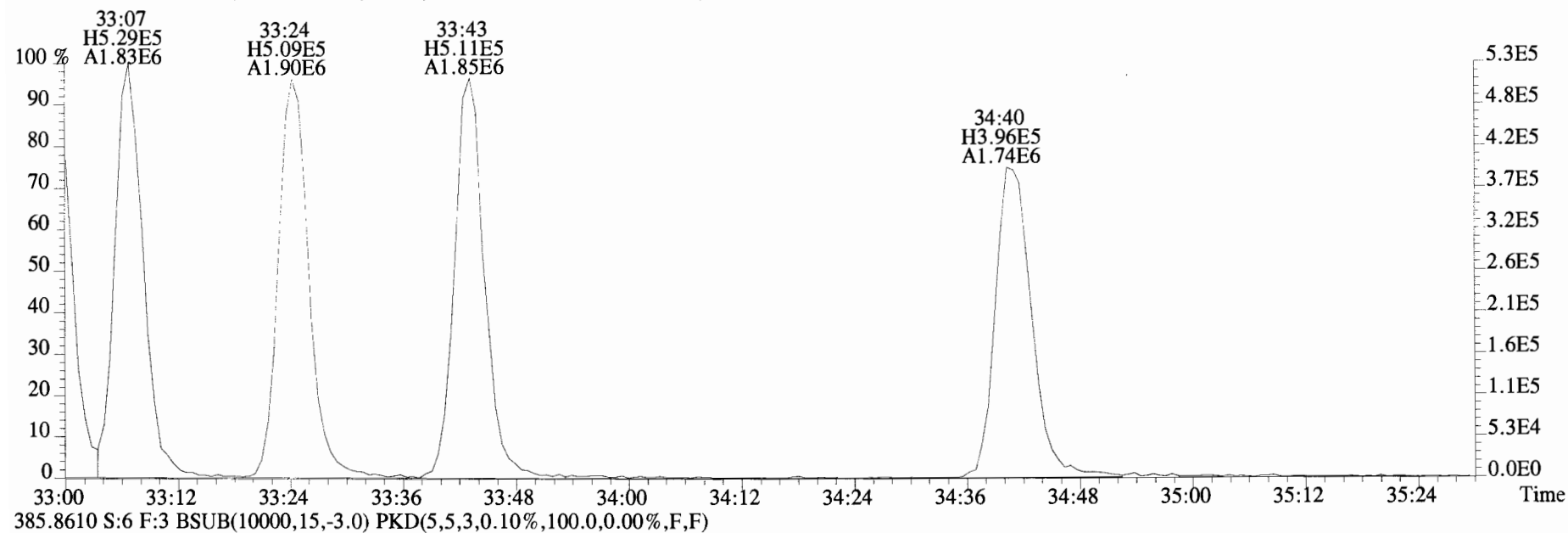
385.8610 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



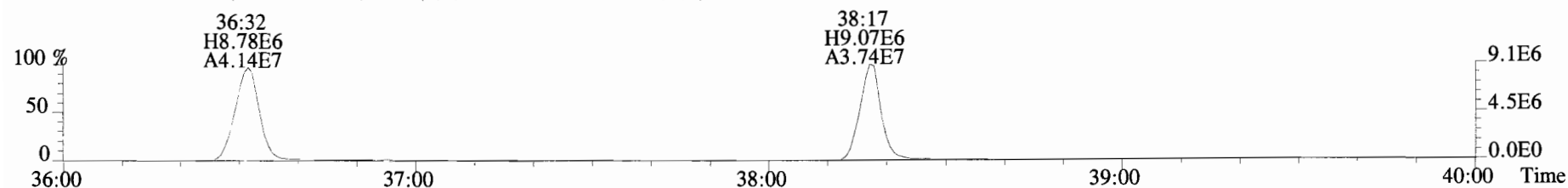
445.7555 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



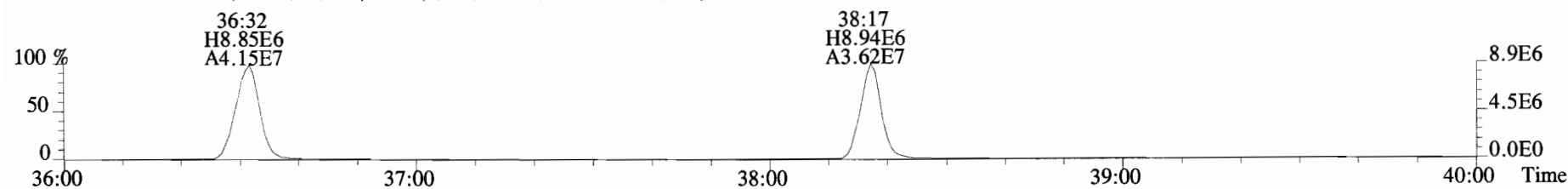
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



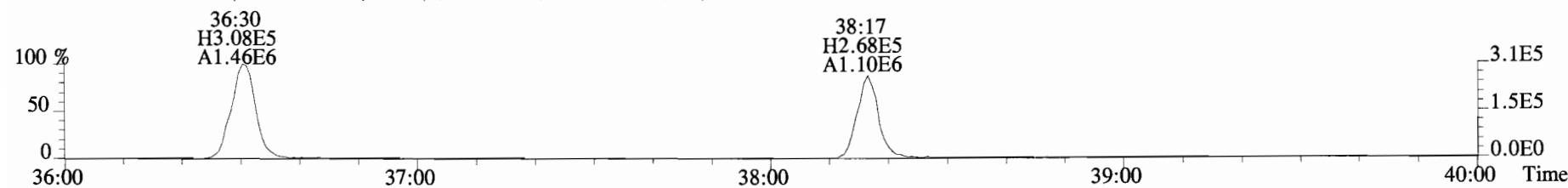
File:190510D2 #1-355 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



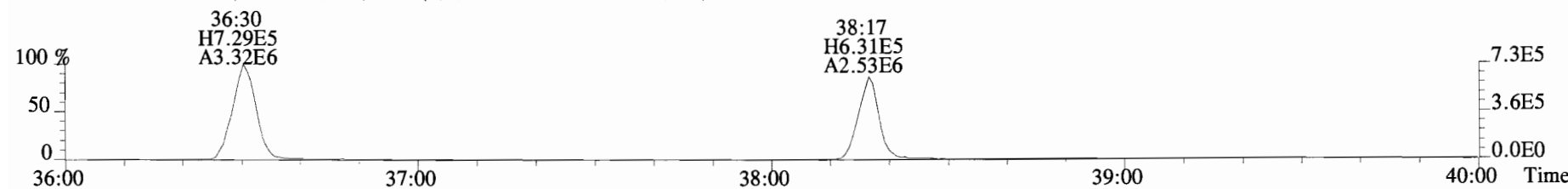
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



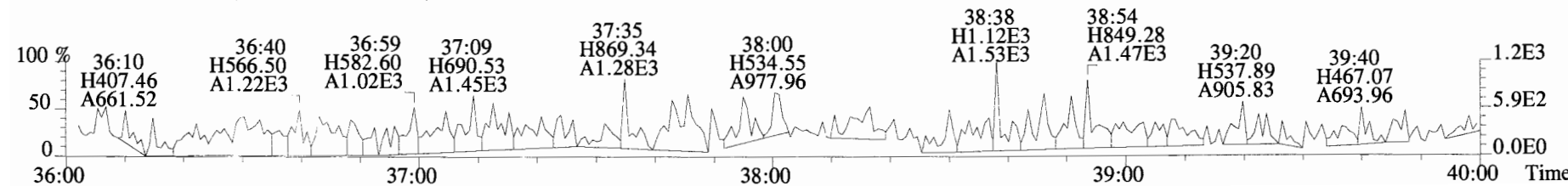
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



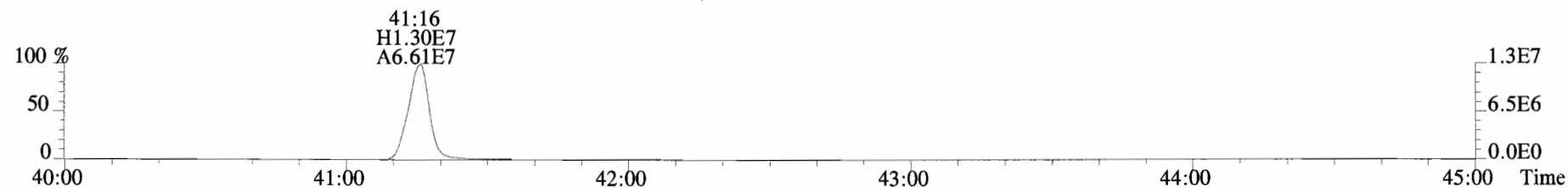
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



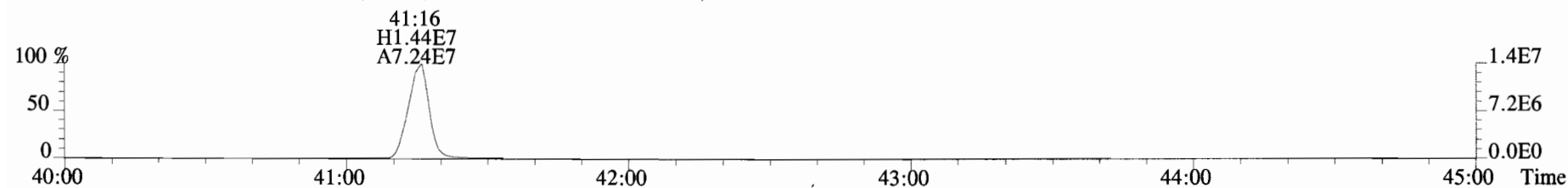
479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



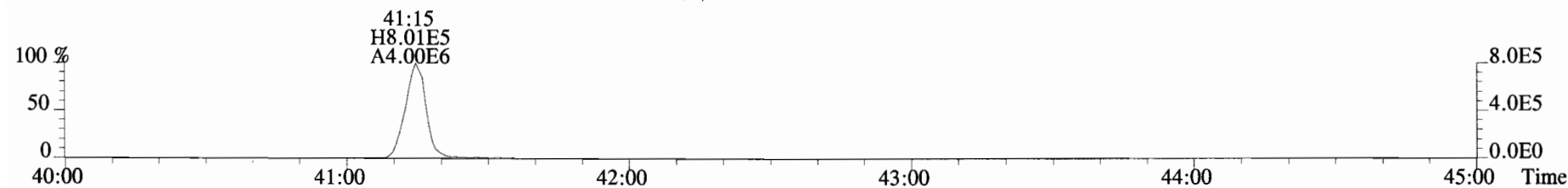
File:190510D2 #1-432 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



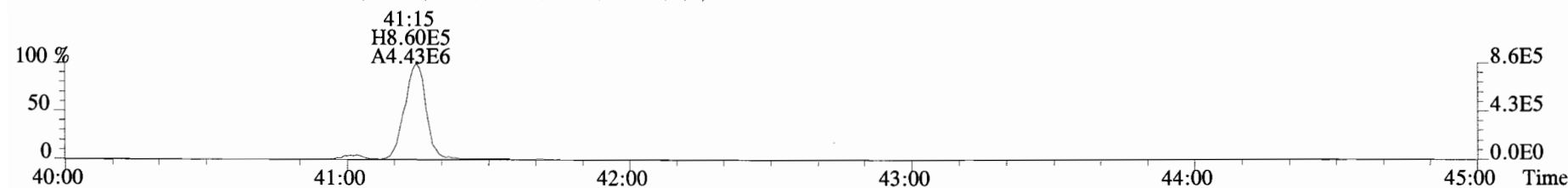
443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



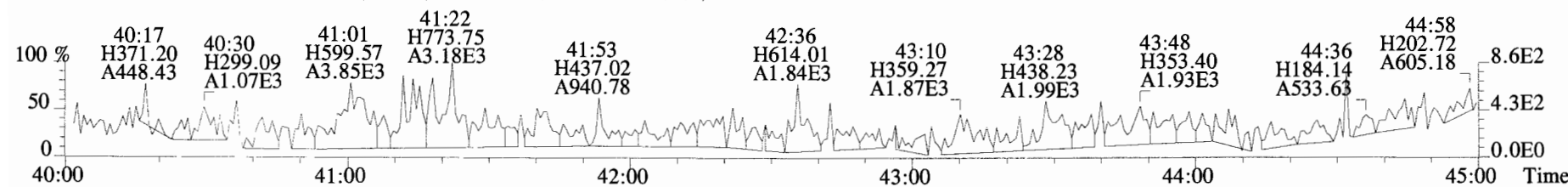
453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

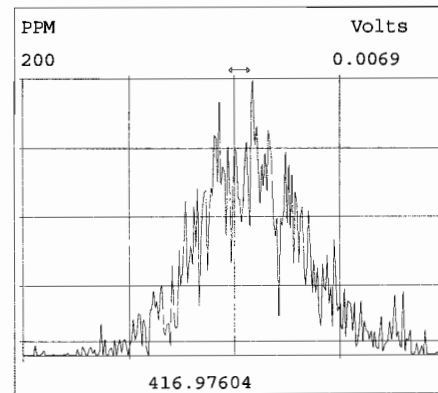
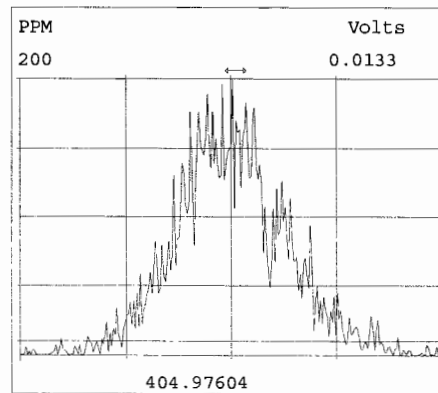
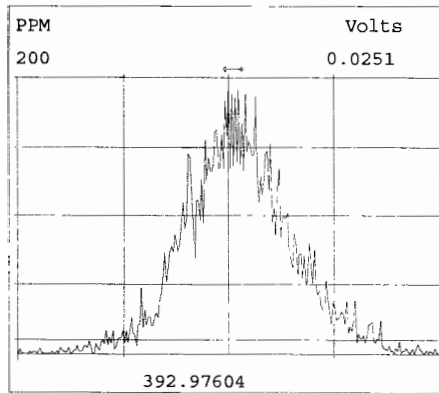
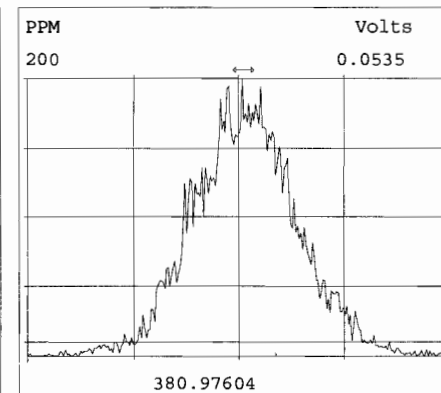
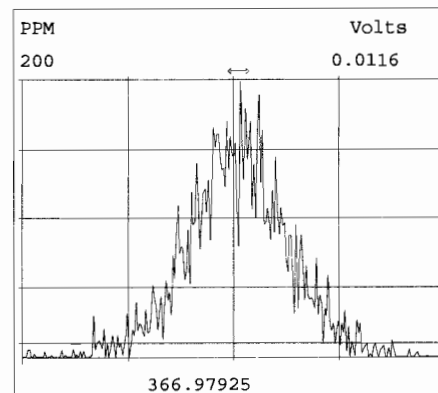
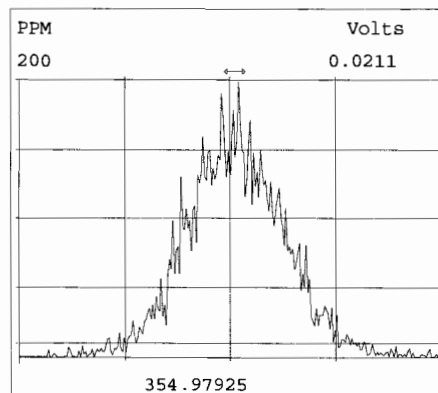
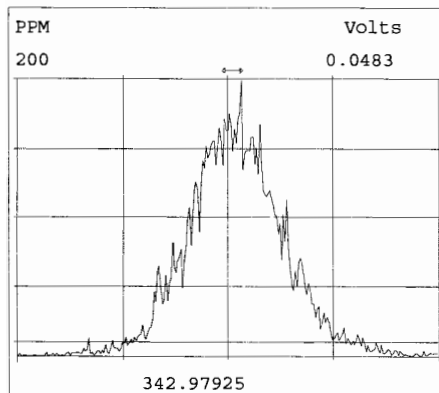
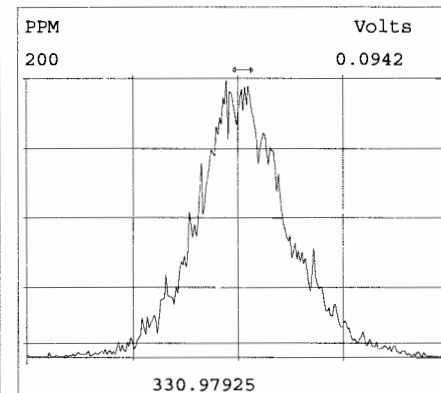
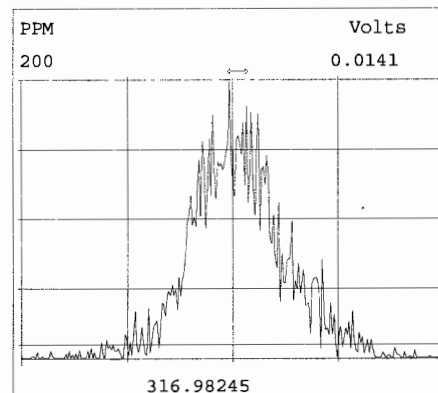
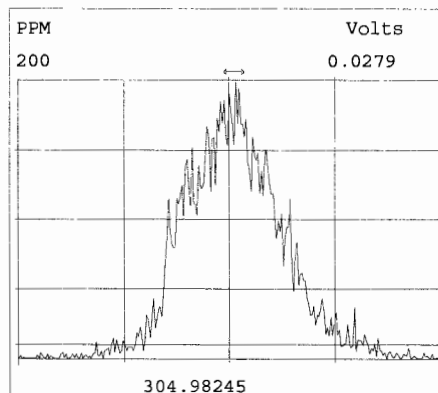
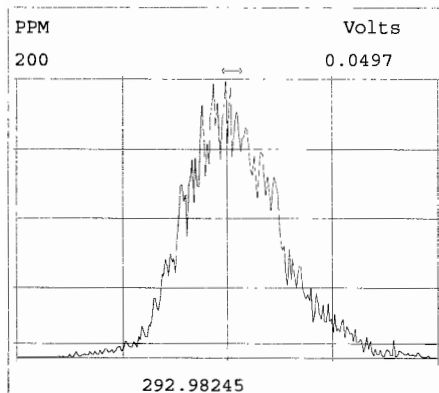


513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



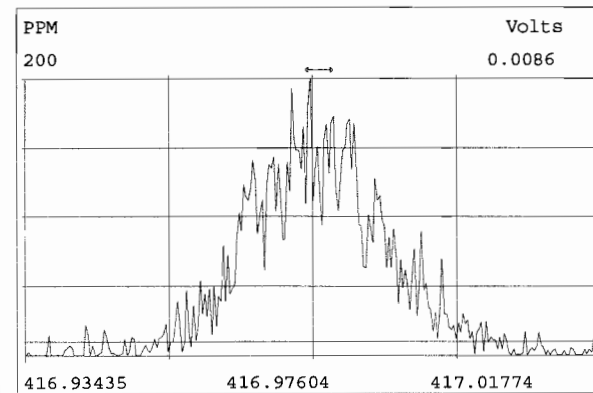
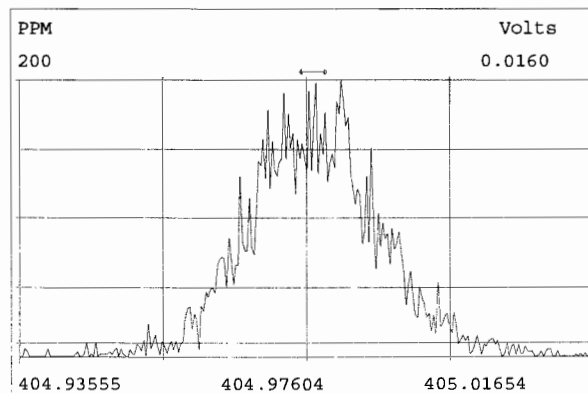
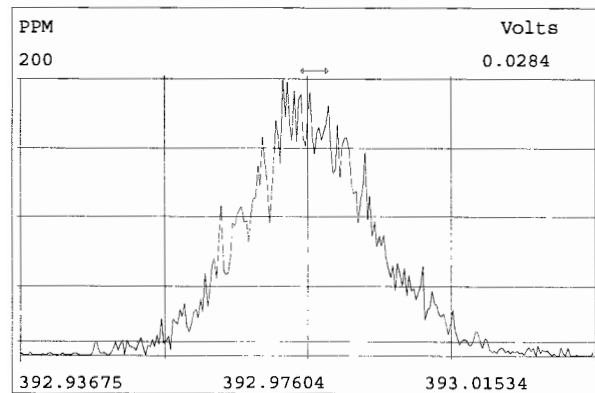
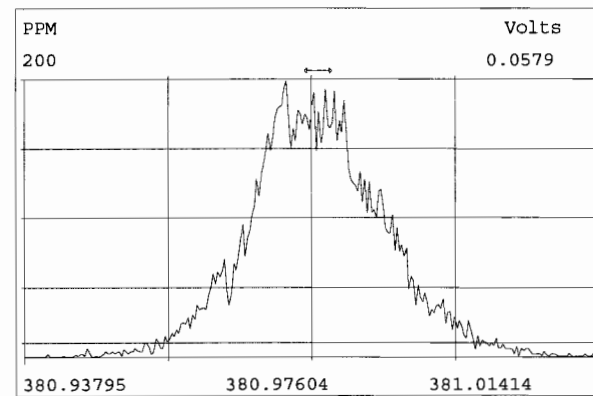
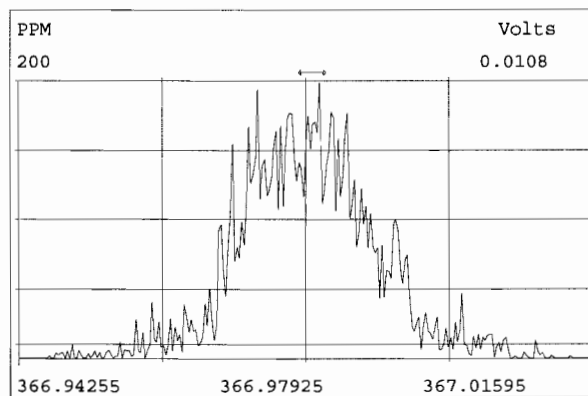
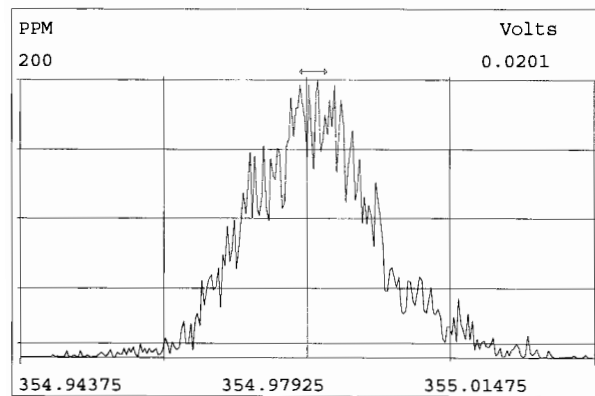
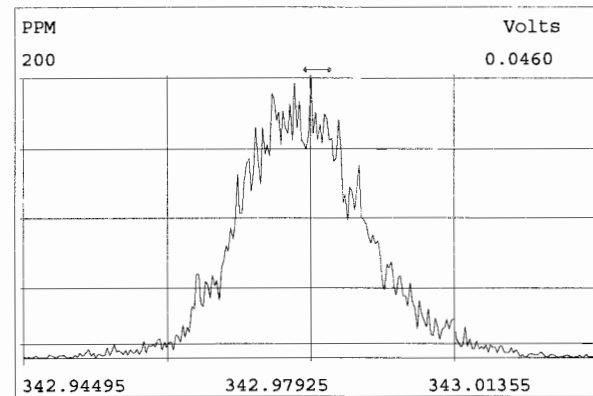
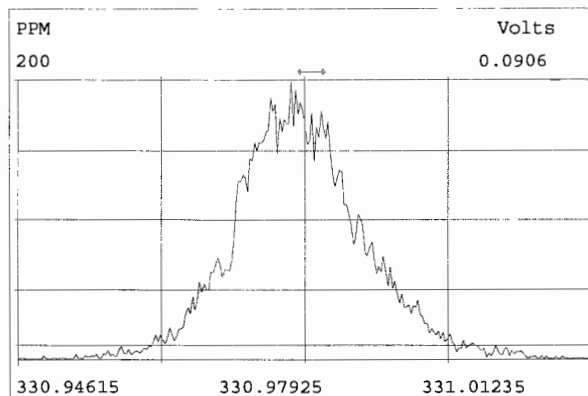
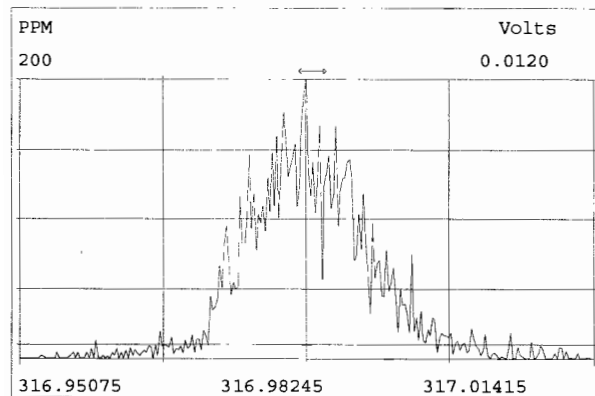
Peak Locate Examination:11-MAY-2019:04:52 File:RES_CHECK

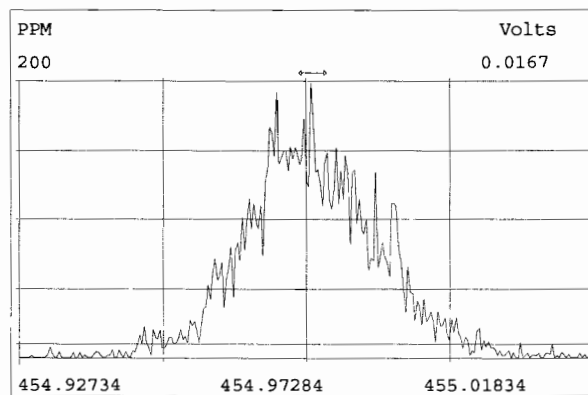
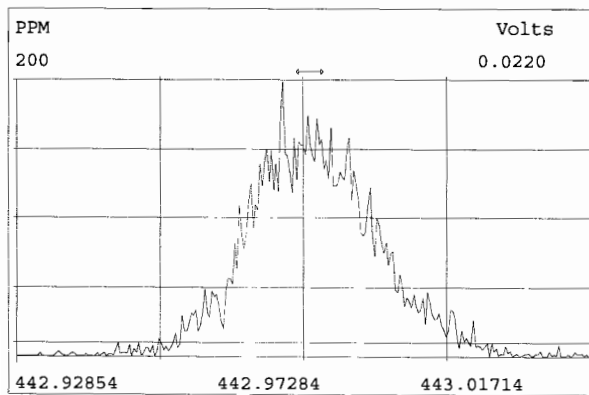
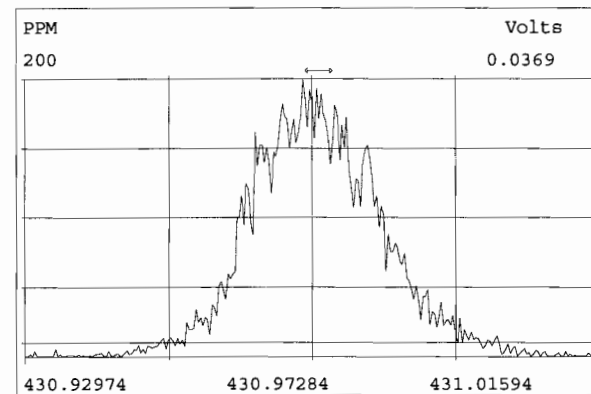
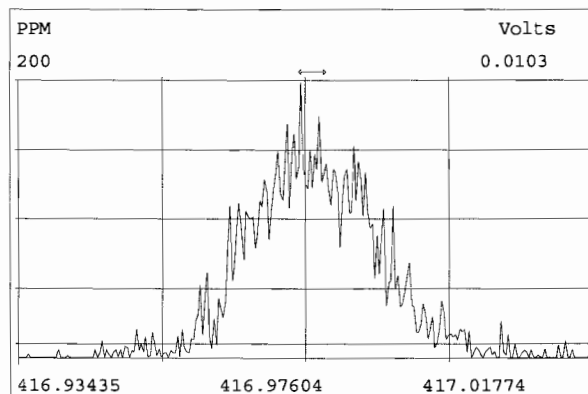
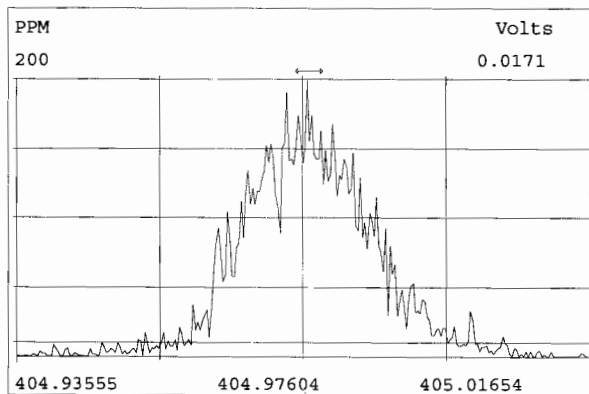
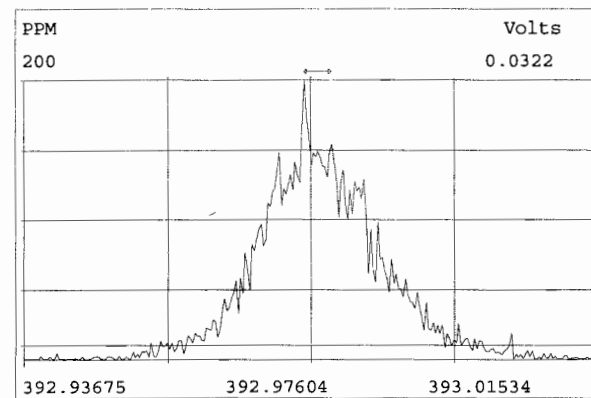
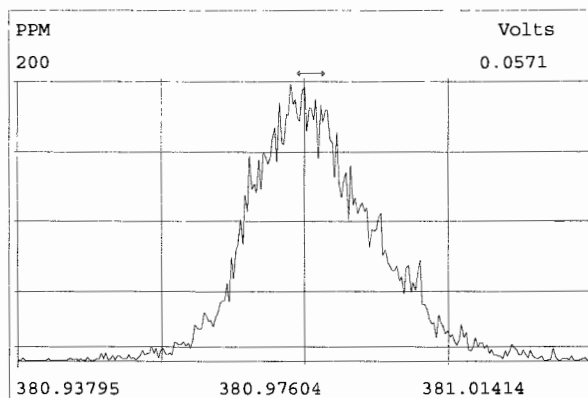
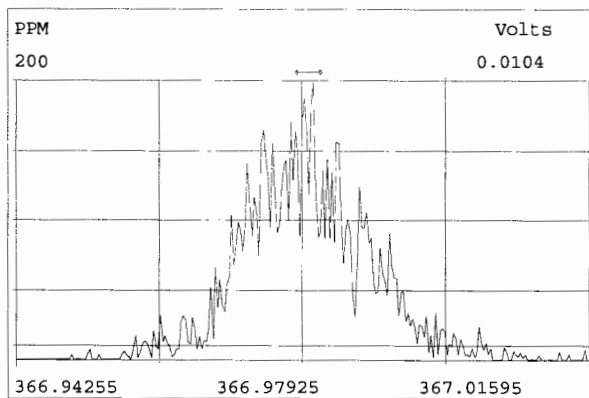
Experiment:OCDD_DB5 Function:1 Reference:PFK



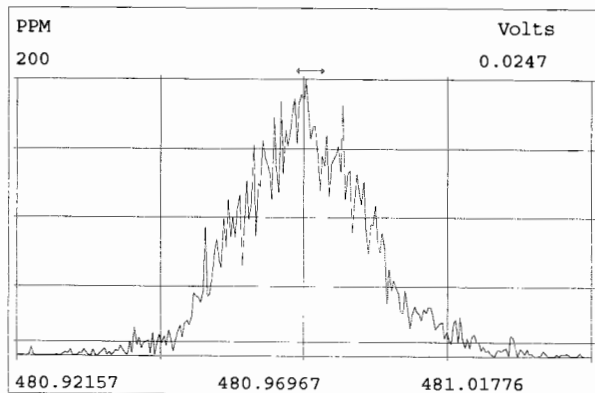
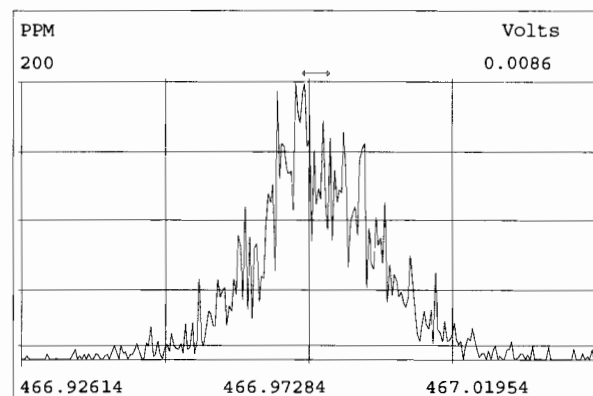
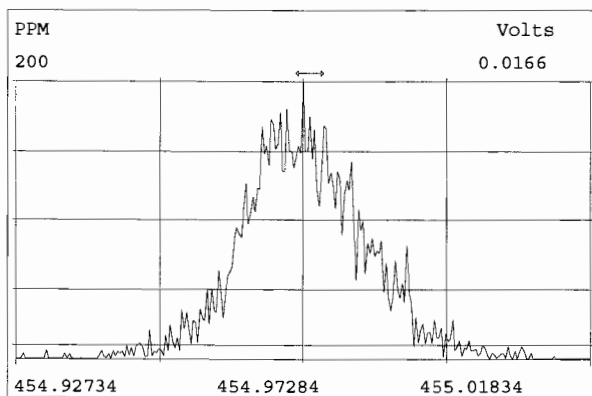
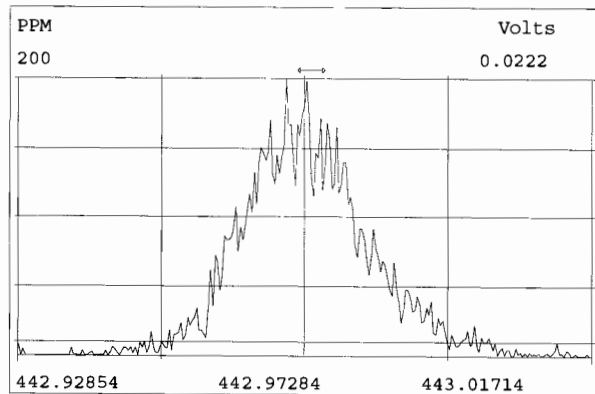
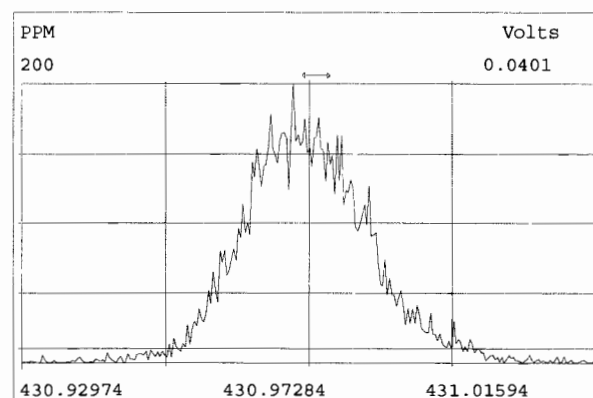
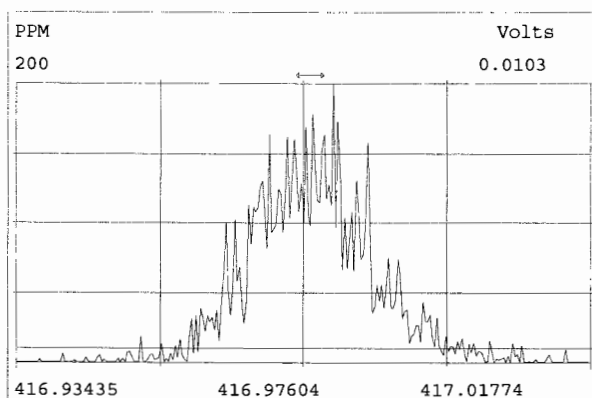
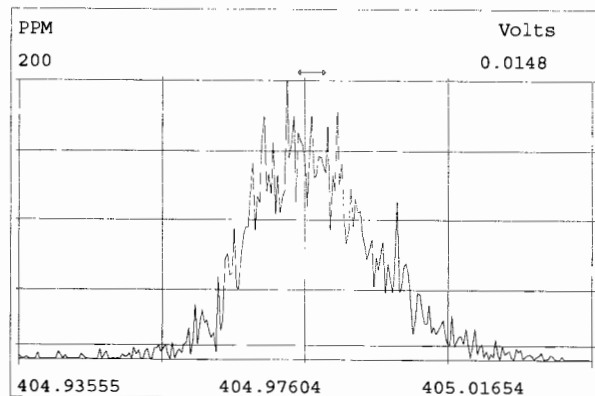
Peak Locate Examination:11-MAY-2019:04:53 File:RES_CHECK

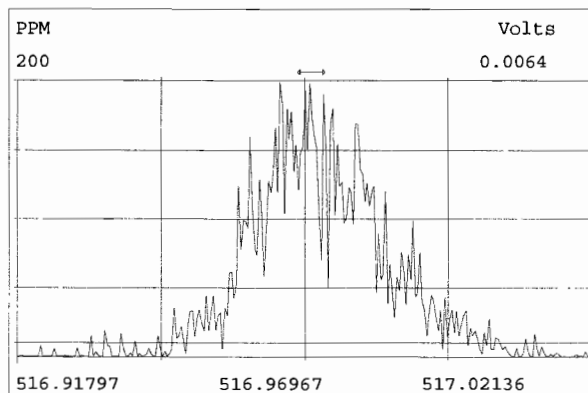
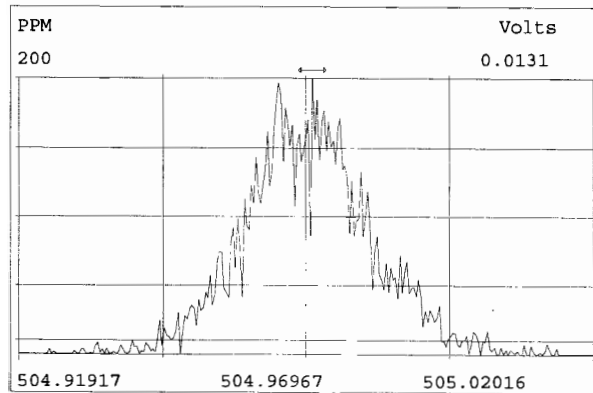
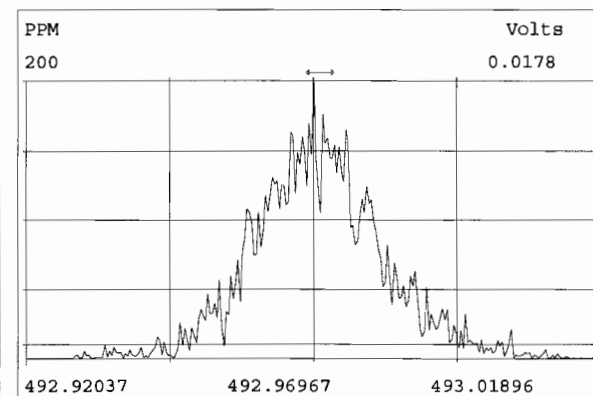
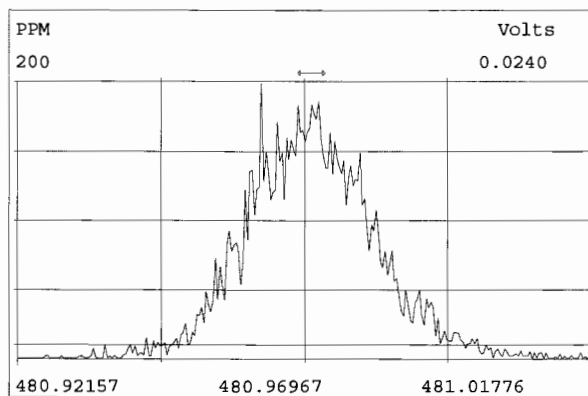
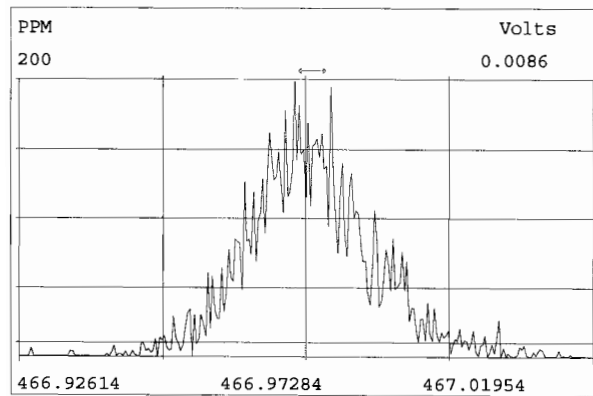
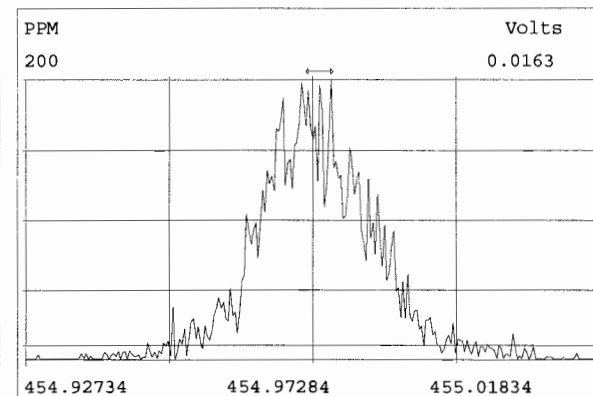
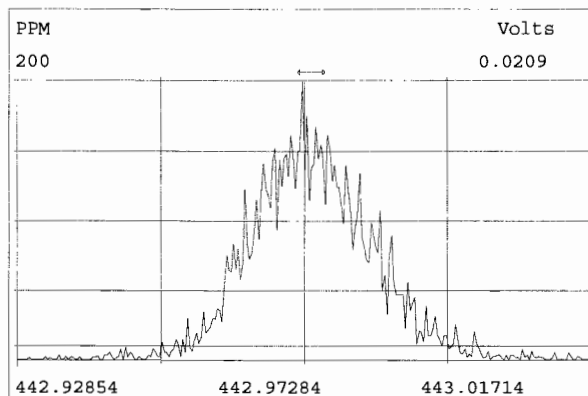
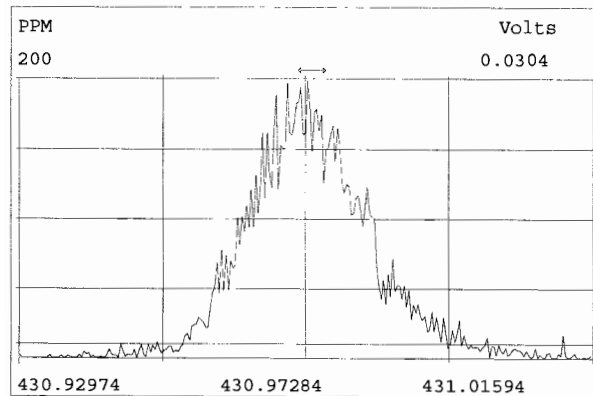
Experiment:OCDD_DB5 Function:2 Reference:PFK





Experiment:OCDD_DB5 Function:4 Reference:PFK





FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: SS190510D2-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.82	0.65-0.89	y	9.99	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.59	0.54-0.72	y	50.9	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	52.6	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	55.2	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	52.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	y	52.0	43.0 - 58.0
OCDD	M+2/M+4	0.92	0.76-1.02	y	104	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	10.7	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	52.3	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	58.4	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	54.5	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	y	56.2	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	52.3	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	55.6	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88-1.20	y	52.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	y	50.0	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	109	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 5/13/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	y	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	98.7	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.34	1.05-1.43	y	95.3	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	y	93.1	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	97.2	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	115	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	y	199	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.77	0.65-0.89	y	103	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	98.2	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	99.0	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	y	96.4	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	y	96.5	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	98.2	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	y	102	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	116	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.41	0.37-0.51	y	119	77.0 - 129.0
13C-OCDF	M+2/M+4	0.92	0.76-1.02	y	202	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.30	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 5/13/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME	RRT	QC LIMITS (1)
	REFERENCE		
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.196	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.151	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.185	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052

Analyst: DB

Date: 5/13/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.987	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.146	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 5/13/19

Client ID: 1613 SSS 19C2207

Filename: 190510D2

S:8

Acq:10-MAY-19 19:58:17

ConCal: ST190510D2-4

Page 1 of 9

Lab ID: SS190510D2-1

GC Column ID: ZB-5MS

ICal: 1613VG7-5-10-19

wt/vol: 1.000

EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	4.81e+05	0.82 y	0.90	26:12	9.9887		* 2.5		*	Total Tetra-Dioxins	10.1	12.4		*	*
1,2,3,7,8-PeCDD	2.04e+06	0.59 y	0.87	30:37	50.933		* 2.5		*	Total Penta-Dioxins	51.0	51.6		*	*
1,2,3,4,7,8-HxCDD	1.83e+06	1.21 y	1.05	33:55	52.576		* 2.5		*	Total Hexa-Dioxins	161	163		*	*
1,2,3,6,7,8-HxCDD	2.08e+06	1.22 y	0.93	34:01	55.219		* 2.5		*	Total Hepta-Dioxins	52.4	54.4		*	*
1,2,3,7,8,9-HxCDD	2.05e+06	1.26 y	0.96	34:20	52.379		* 2.5		*	Total Tetra-Furans	12.0	14.7		*	*
1,2,3,4,6,7,8-HpCDD	2.09e+06	1.01 y	0.99	37:46	52.015		* 2.5		*	Total Penta-Furans	111.82	118.05		*	*
OCDD	3.30e+06	0.92 y	0.99	41:03	104.03		* 2.5		*	Total Hexa-Furans	219	219		*	*
										Total Hepta-Furans	103	105		*	*
2,3,7,8-TCDF	7.27e+05	0.78 y	0.94	25:27	10.721		* 2.5		*						
1,2,3,7,8-PeCDF	2.99e+06	1.61 y	0.92	29:28	52.327		* 2.5		*						
2,3,4,7,8-PeCDF	3.42e+06	1.59 y	0.96	30:22	58.360		* 2.5		*						
1,2,3,4,7,8-HxCDF	2.68e+06	1.22 y	1.15	33:01	54.544		* 2.5		*						
1,2,3,6,7,8-HxCDF	2.97e+06	1.18 y	1.04	33:09	56.235		* 2.5		*						
2,3,4,6,7,8-HxCDF	2.76e+06	1.20 y	1.10	33:45	52.297		* 2.5		*						
1,2,3,7,8,9-HxCDF	2.60e+06	1.22 y	1.03	34:44	55.557		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	2.69e+06	1.00 y	1.06	36:33	52.088		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	2.39e+06	1.02 y	1.23	38:19	50.039		* 2.5		*						
OCDF	4.19e+06	0.90 y	0.94	41:17	109.14		* 2.5		*						
										Rec	Qual				
IS	13C-2,3,7,8-TCDD	5.35e+06	0.76 y	1.11	26:10	101.43				101					
IS	13C-1,2,3,7,8-PeCDD	4.59e+06	0.63 y	0.98	30:37	98.658				98.7					
IS	13C-1,2,3,4,7,8-HxCDD	3.32e+06	1.34 y	0.68	33:54	95.294				95.3					
IS	13C-1,2,3,6,7,8-HxCDD	4.04e+06	1.19 y	0.84	34:01	93.135				93.1					
IS	13C-1,2,3,7,8,9-HxCDD	4.07e+06	1.24 y	0.81	34:19	97.155				97.2					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.07e+06	1.06 y	0.69	37:45	114.95				115					
IS	13C-OCDD	6.43e+06	0.91 y	0.62	41:02	199.49				99.7					
IS	13C-2,3,7,8-TCDF	7.19e+06	0.77 y	1.05	25:26	103.44				103					
IS	13C-1,2,3,7,8-PeCDF	6.20e+06	1.53 y	0.95	29:27	98.238				98.2					
IS	13C-2,3,4,7,8-PeCDF	6.12e+06	1.58 y	0.94	30:21	98.956				99.0					
IS	13C-1,2,3,4,7,8-HxCDF	4.26e+06	0.50 y	0.86	33:01	96.378				96.4					
IS	13C-1,2,3,6,7,8-HxCDF	5.09e+06	0.53 y	1.02	33:08	96.528				96.5					
IS	13C-2,3,4,6,7,8-HxCDF	4.82e+06	0.52 y	0.95	33:45	98.157				98.2					
IS	13C-1,2,3,7,8,9-HxCDF	4.55e+06	0.53 y	0.87	34:43	101.63				102					
IS	13C-1,2,3,4,6,7,8-HpCDF	4.85e+06	0.43 y	0.81	36:32	116.37				116					
IS	13C-1,2,3,4,7,8,9-HpCDF	3.89e+06	0.41 y	0.63	38:19	119.40				119					
IS	13C-OCDF	8.17e+06	0.92 y	0.78	41:16	202.50				101					
C/Up	37C1-2,3,7,8-TCDD	5.40e+05		1.22	26:12	9.3041				93.0					
RS/RT	13C-1,2,3,4-TCDD	4.77e+06	0.78 y	1.00	25:36	100.00									
RS	13C-1,2,3,4-TCDF	6.61e+06	0.84 y	1.00	24:13	100.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	5.16e+06	0.52 y	1.00	33:26	100.00									

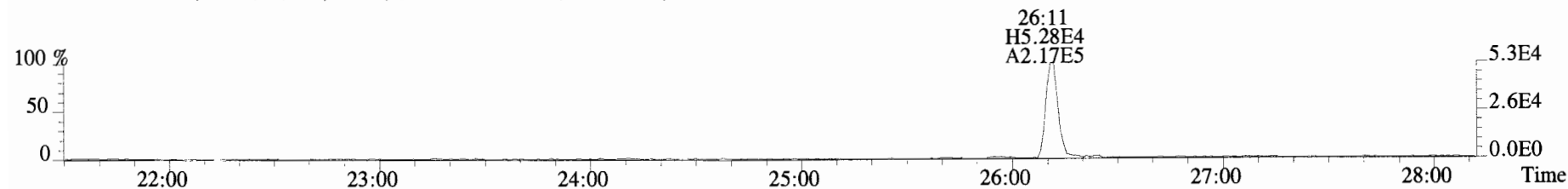
Integrations

by DB
Analyst:Date: 5/14/19

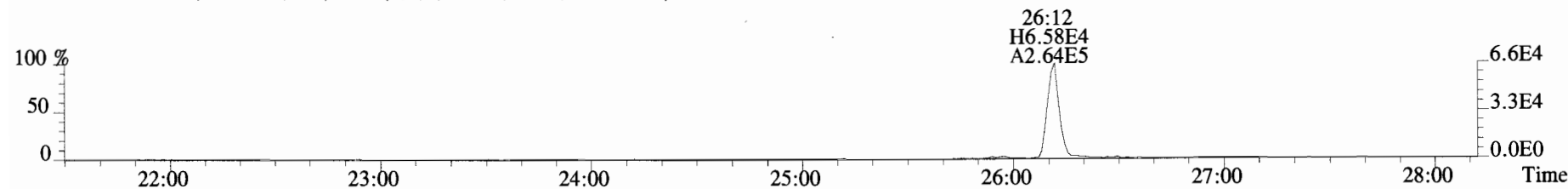
Reviewed

by ms
Analyst:Date: 5/14/19

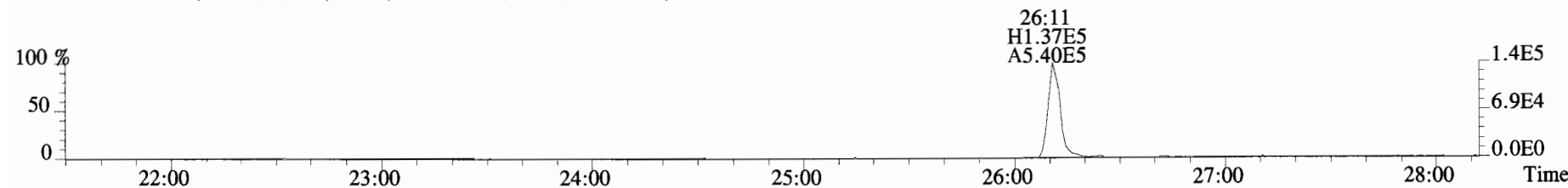
File:190510D2 #1-529 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



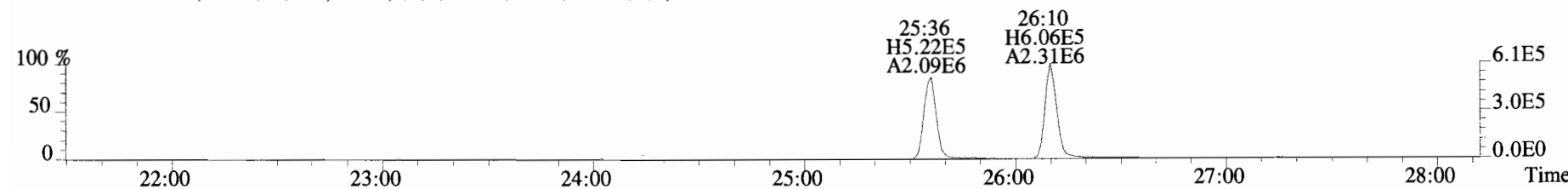
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



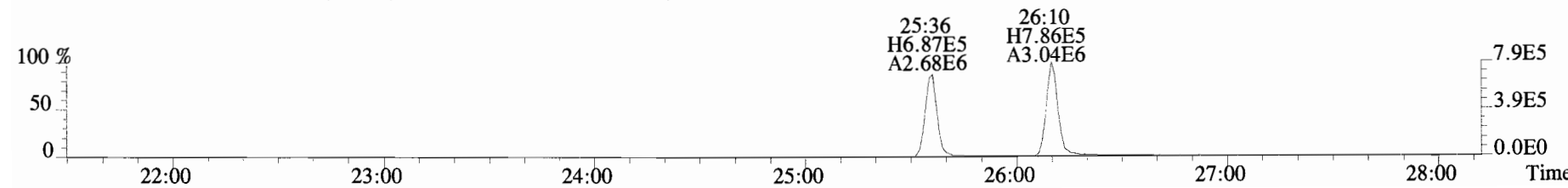
327.8847 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



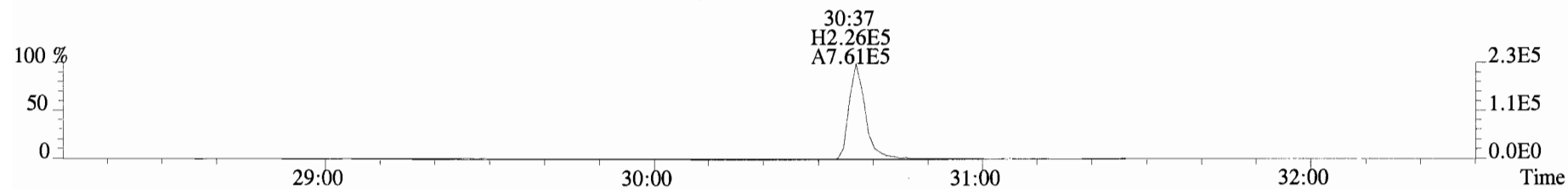
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



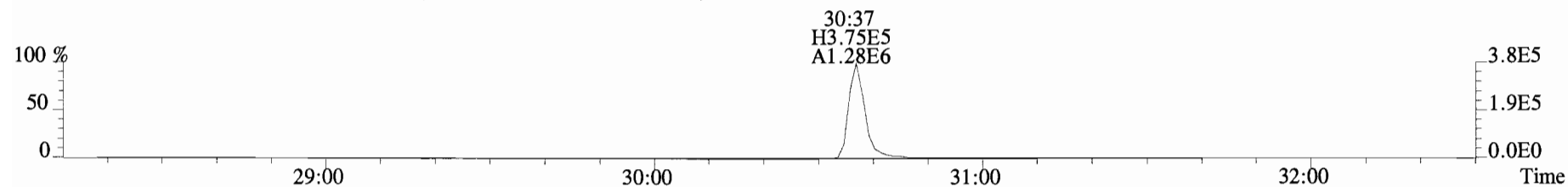
333.9339 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



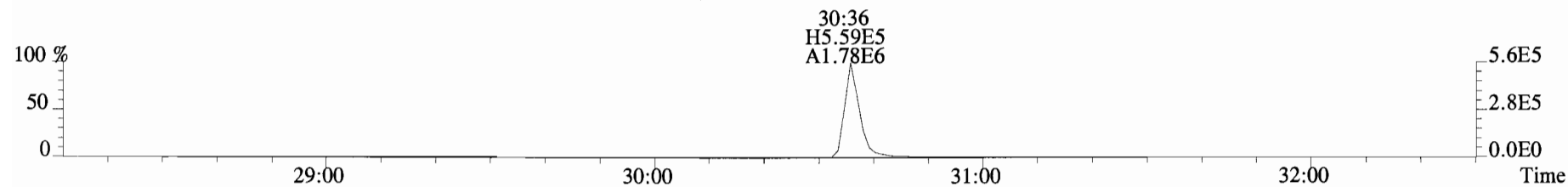
File:190510D2 #1-180 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
353.8576 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



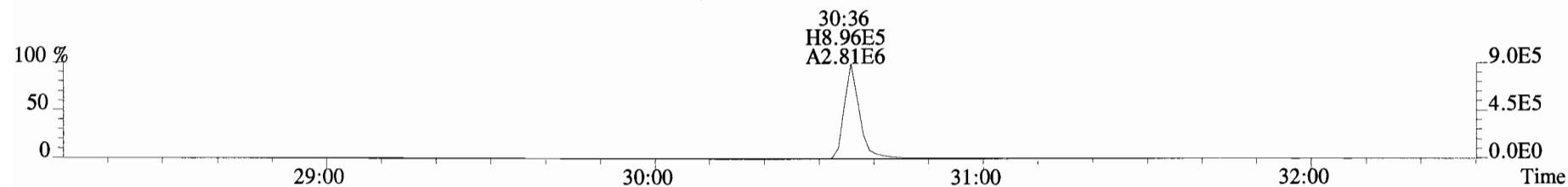
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



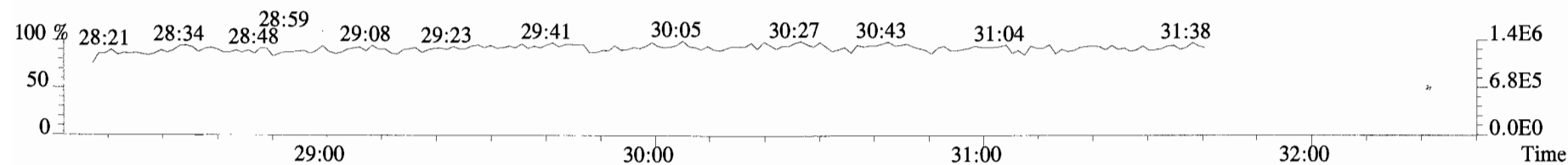
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



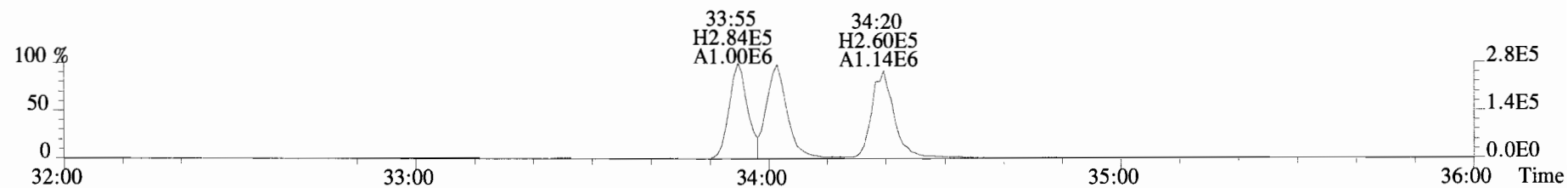
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



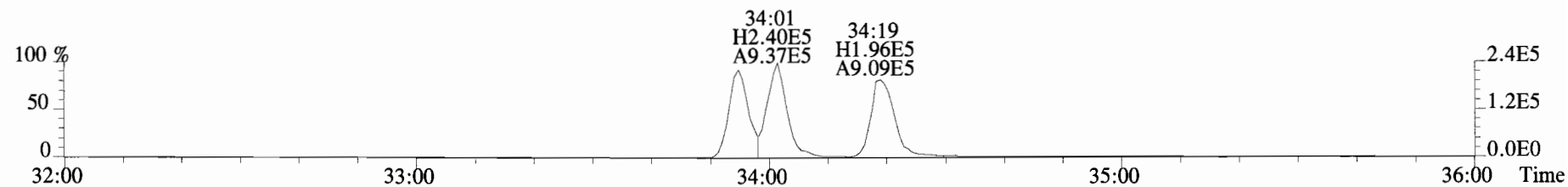
366.9792 S:8 F:2



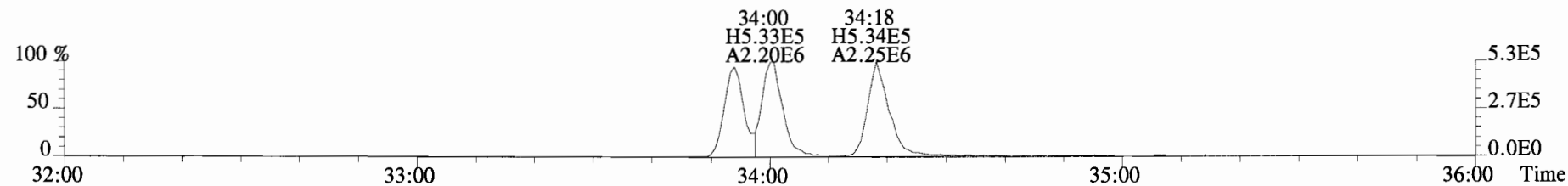
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



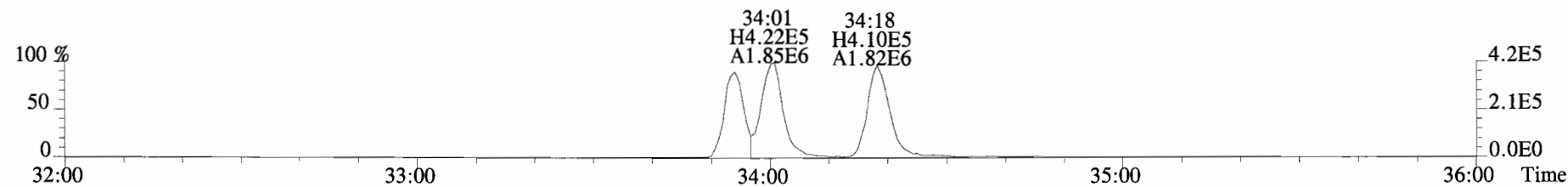
391.8127 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



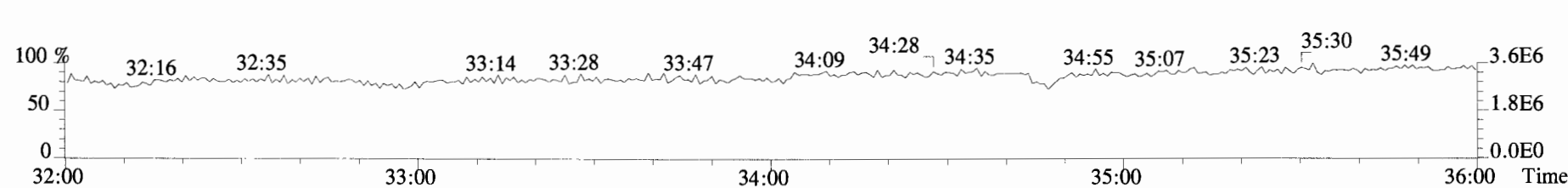
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



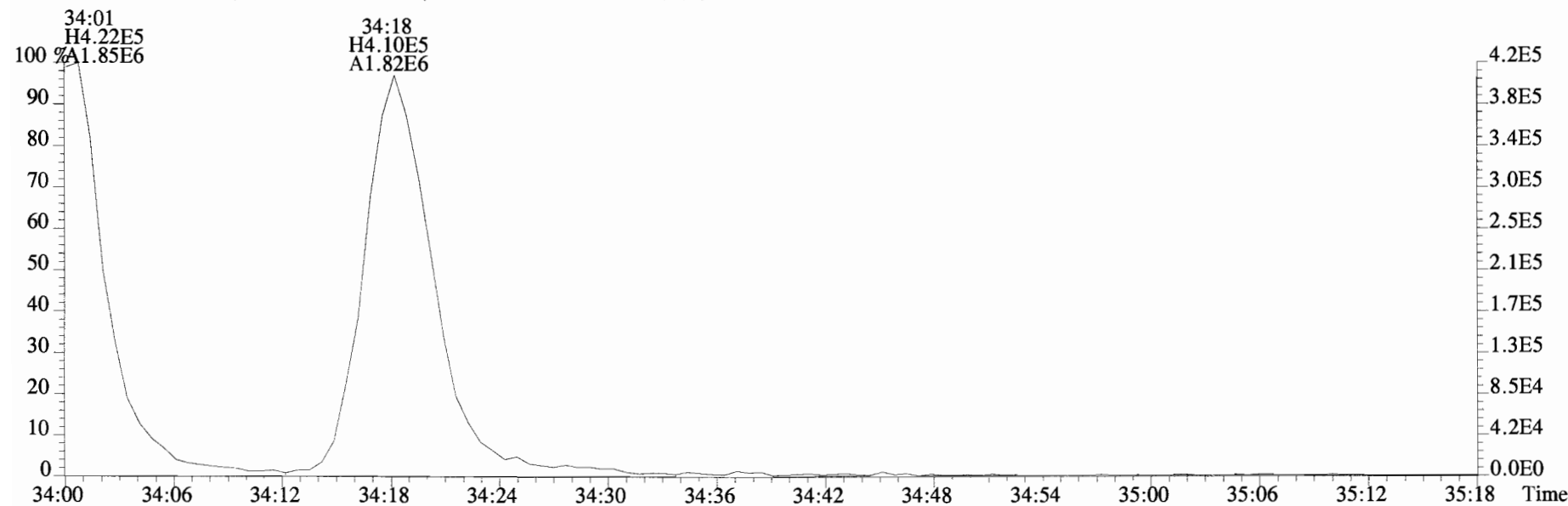
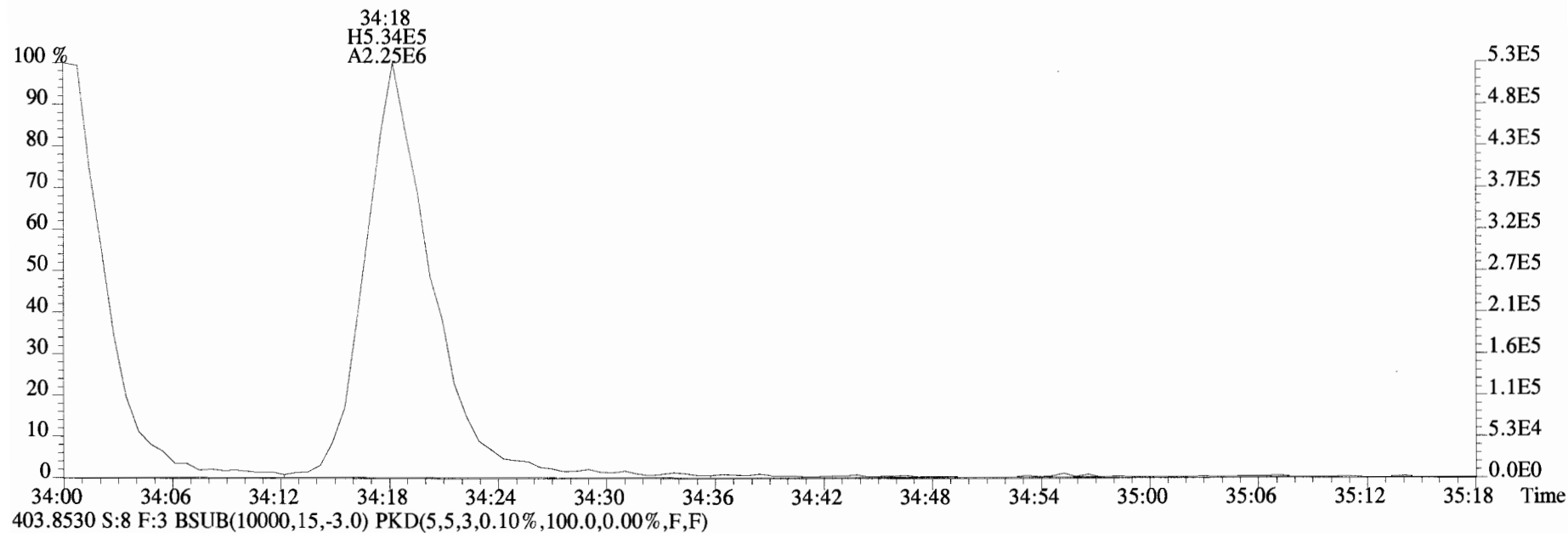
403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



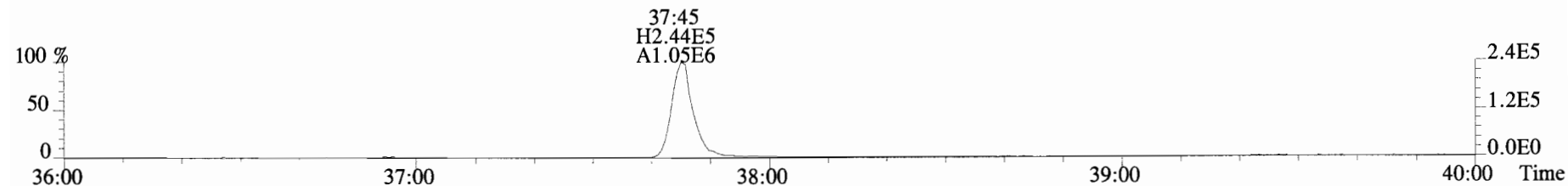
392.9760 S:8 F:3



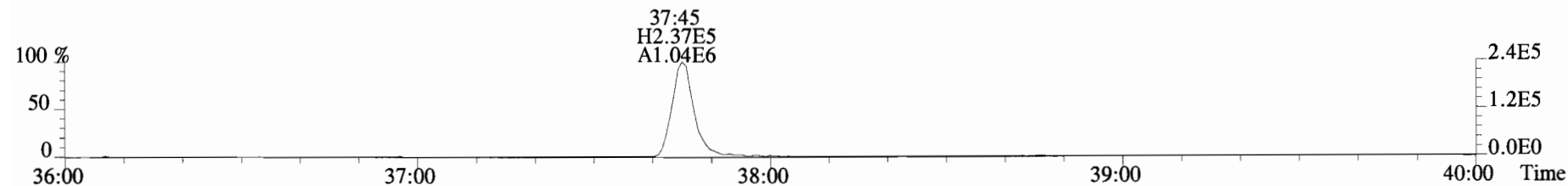
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



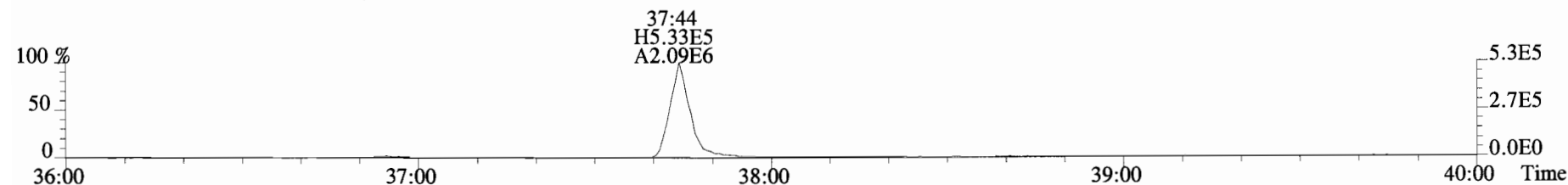
File:190510D2 #1-355 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



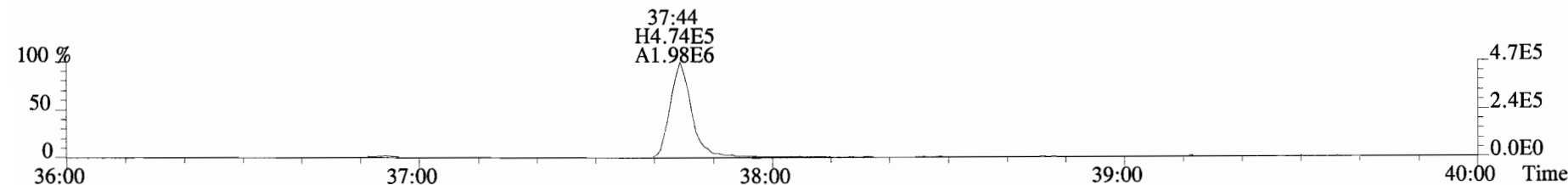
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



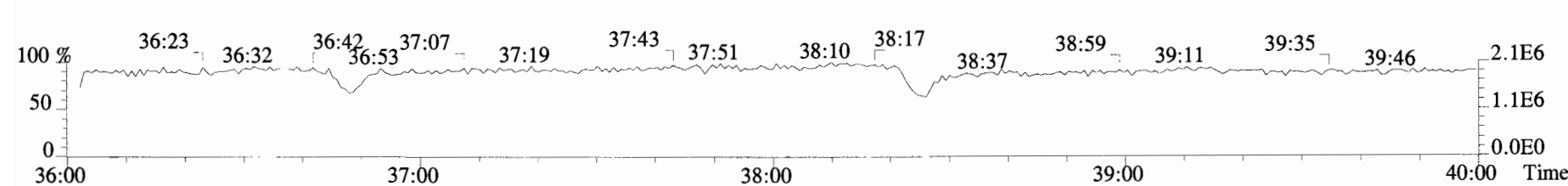
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



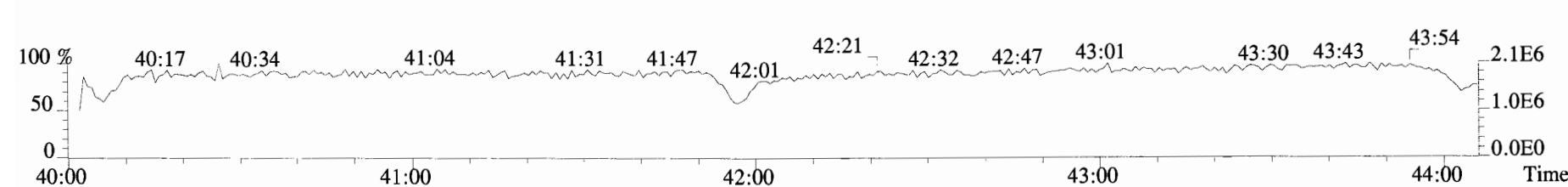
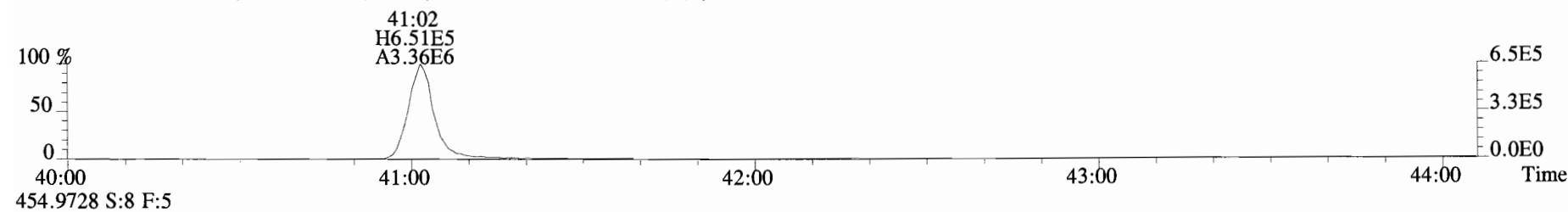
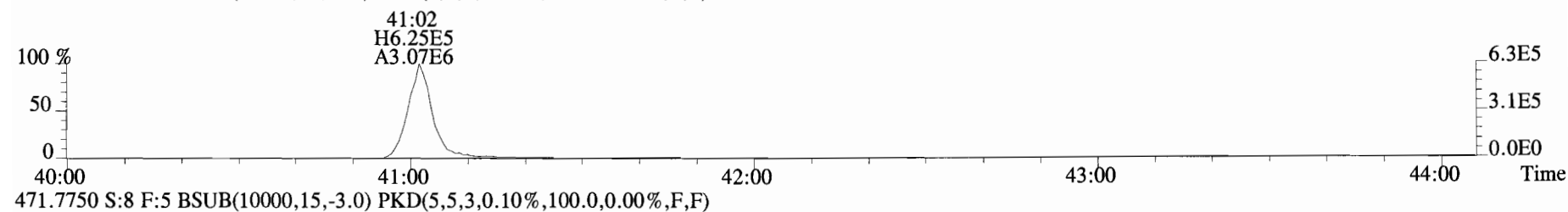
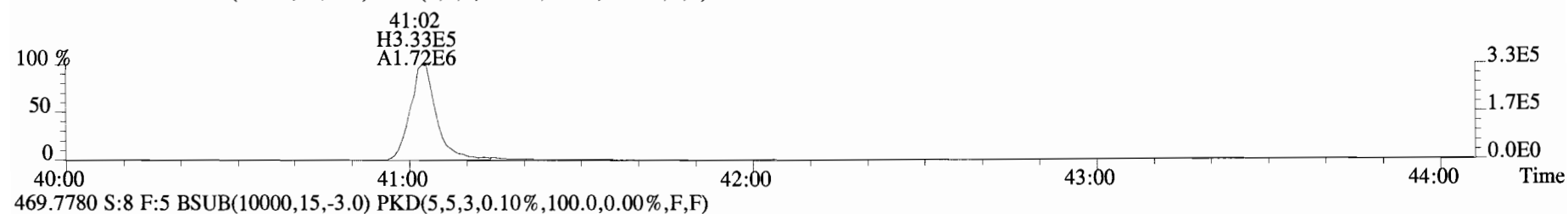
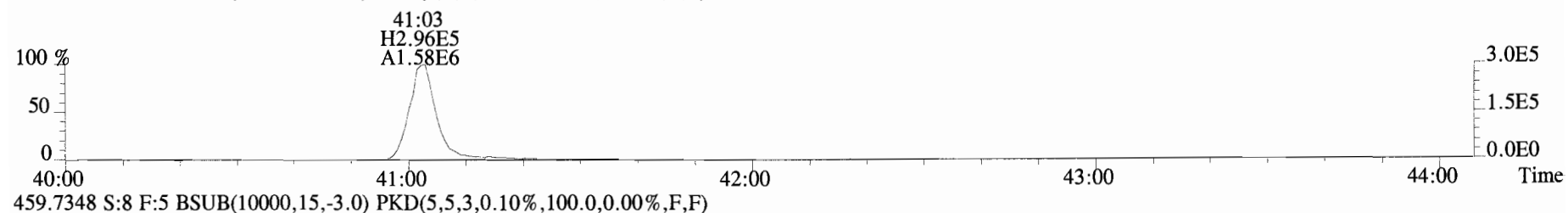
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



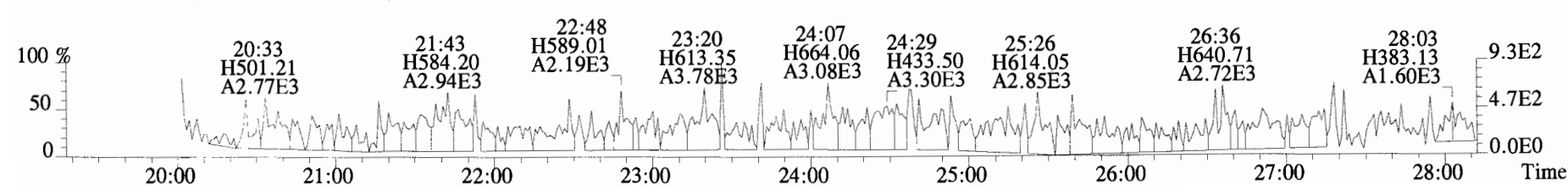
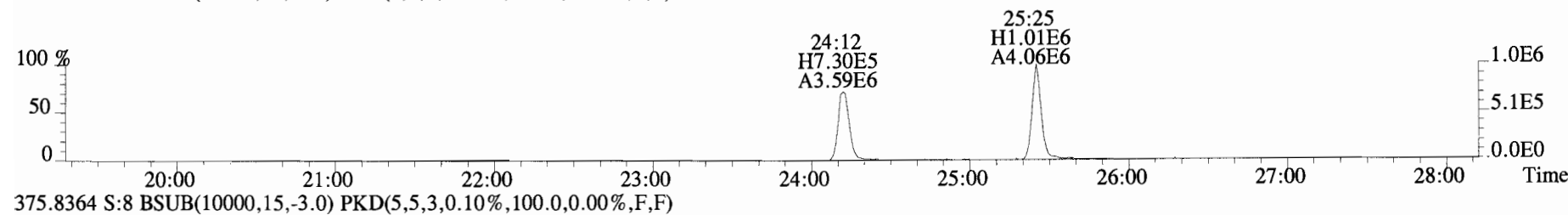
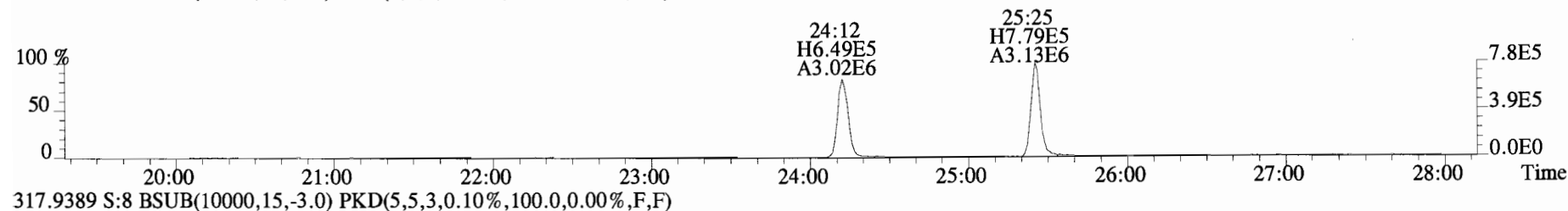
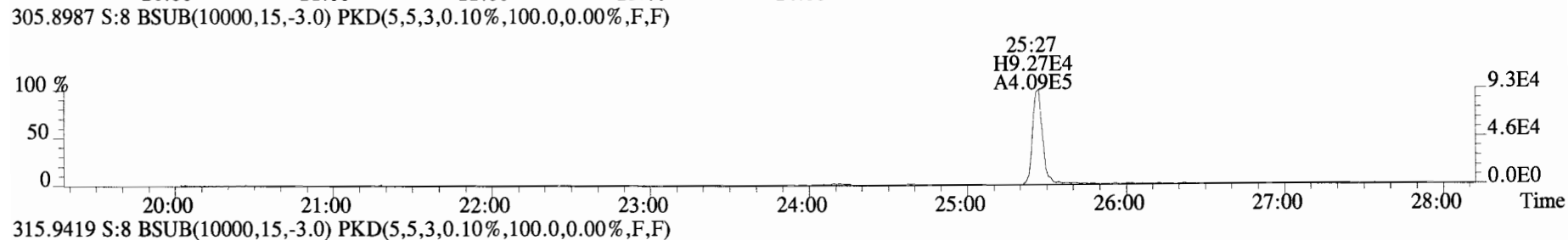
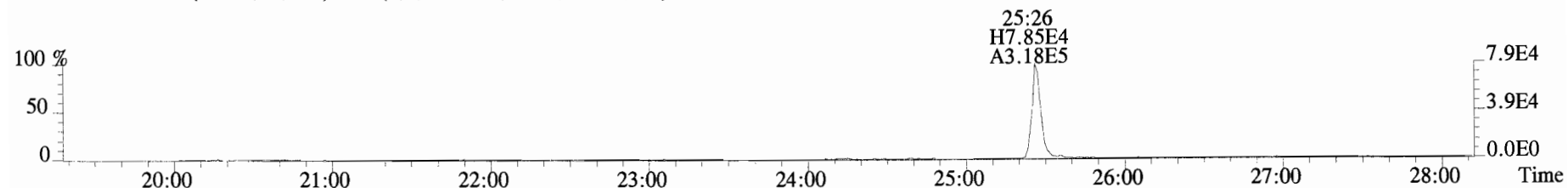
454.9728 S:8 F:4



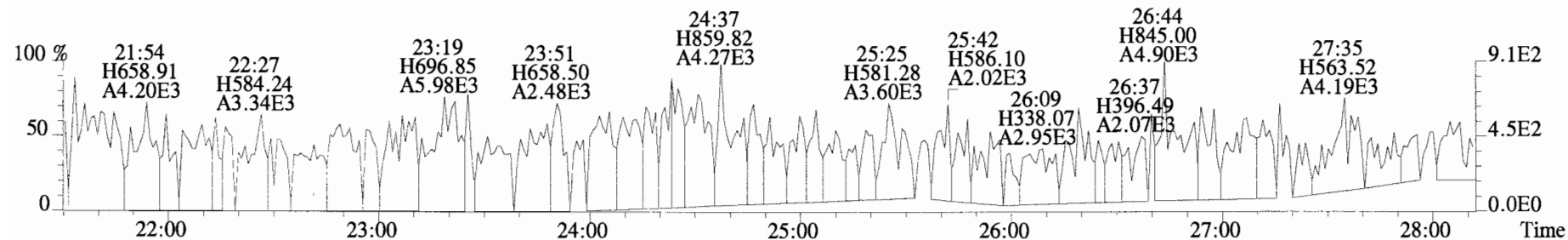
File:190510D2 #1-432 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



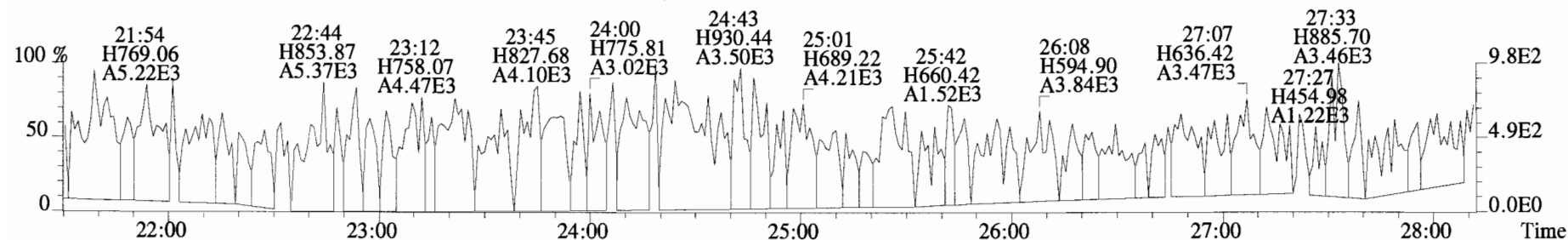
File:190510D2 #1-529 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



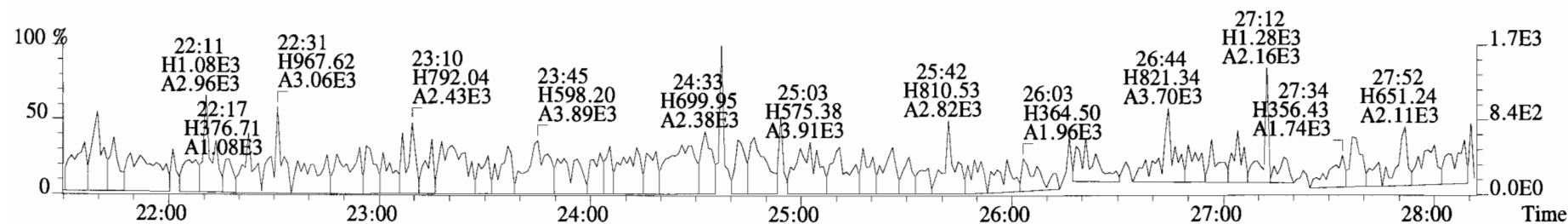
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339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



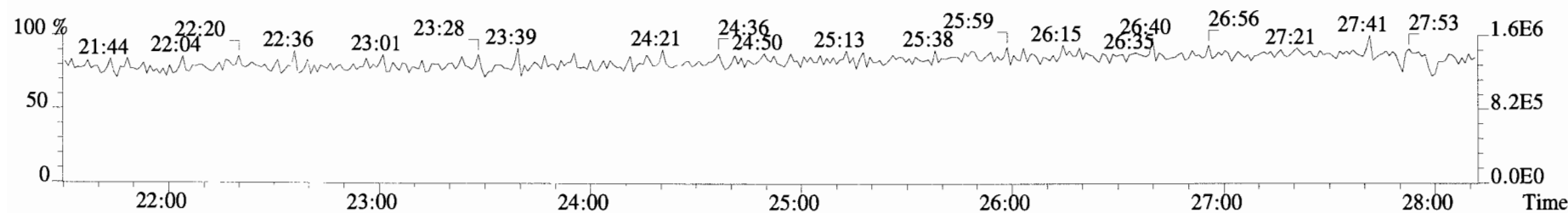
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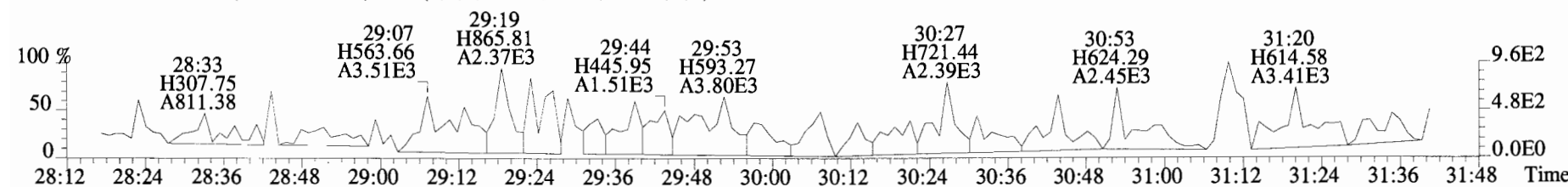
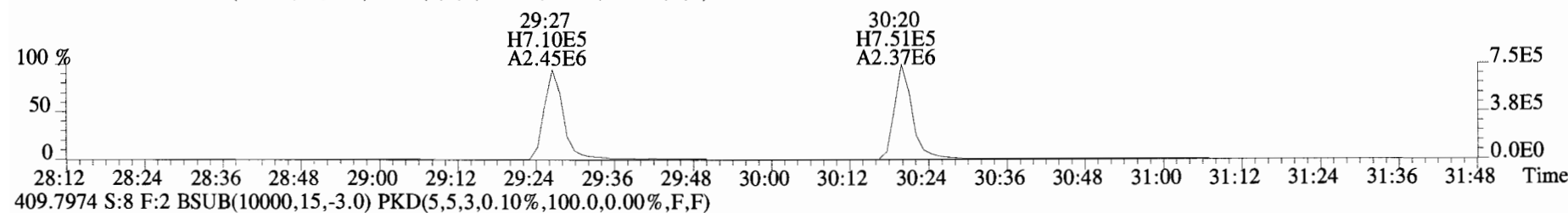
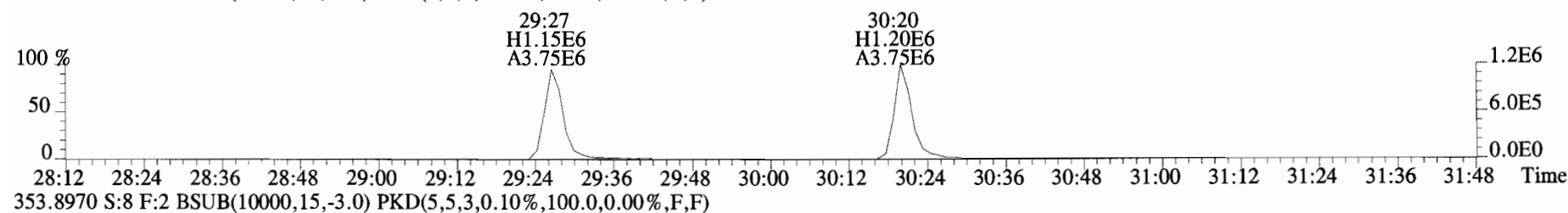
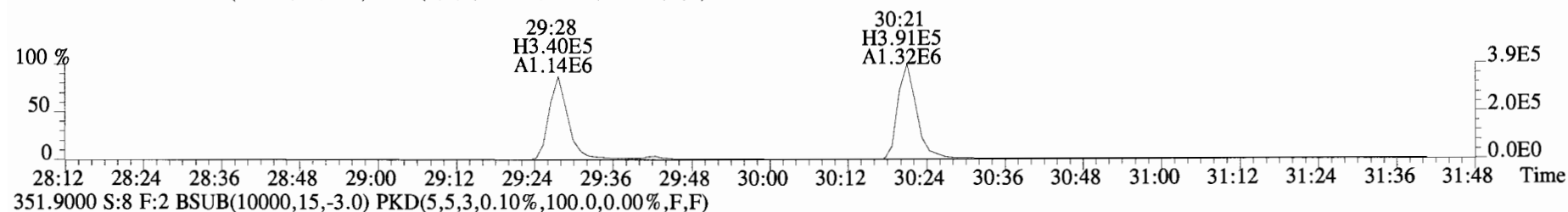
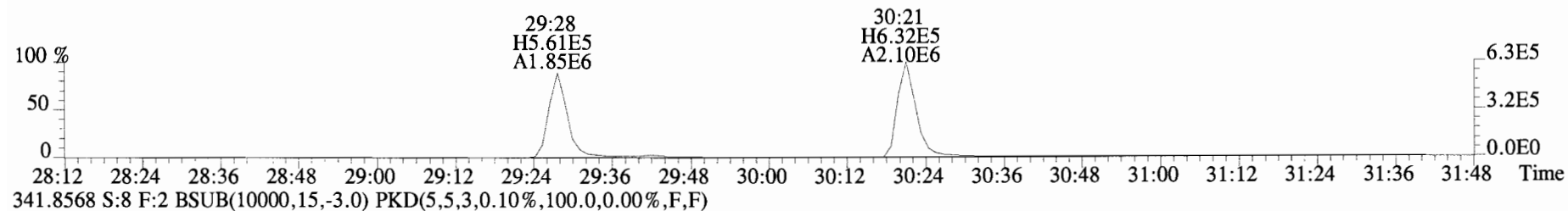
409.7974 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



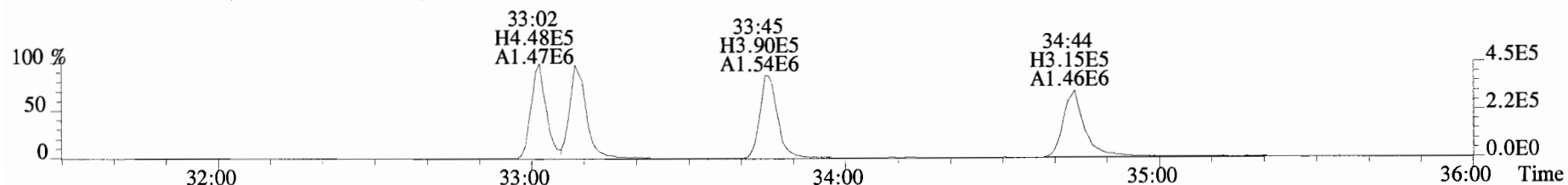
316.9824 S:8



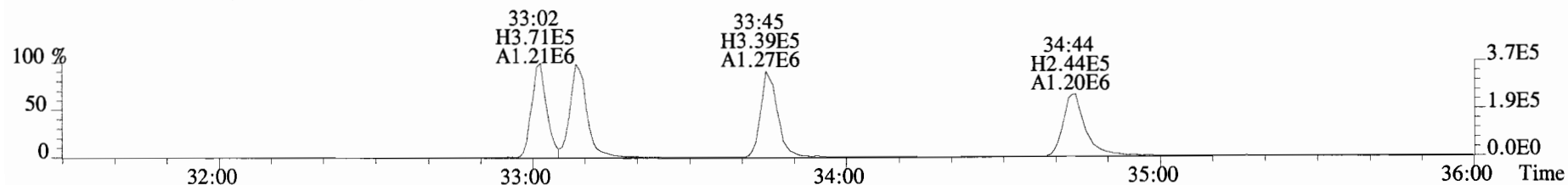
File:190510D2 #1-180 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
 339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



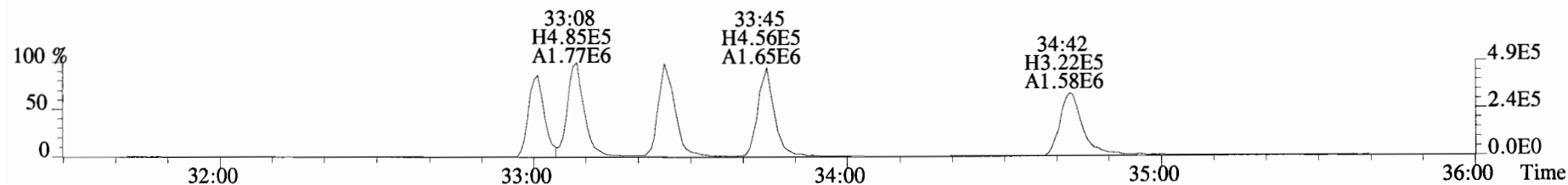
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
 373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



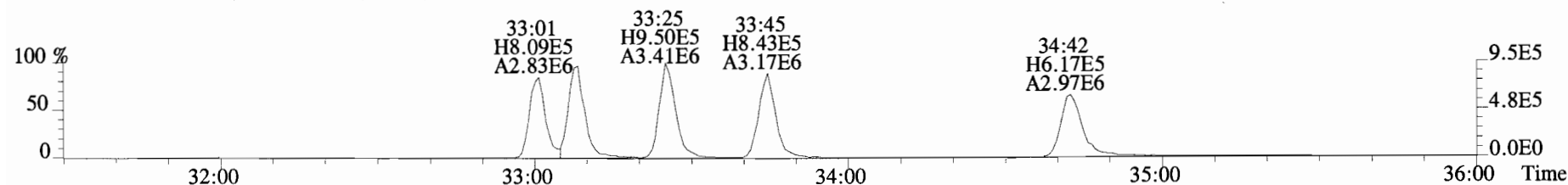
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



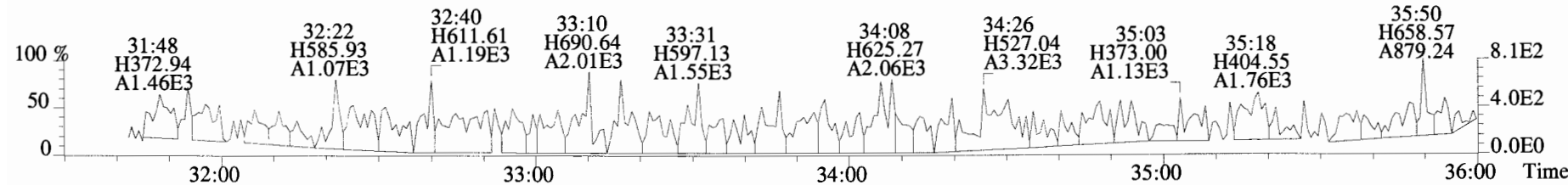
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



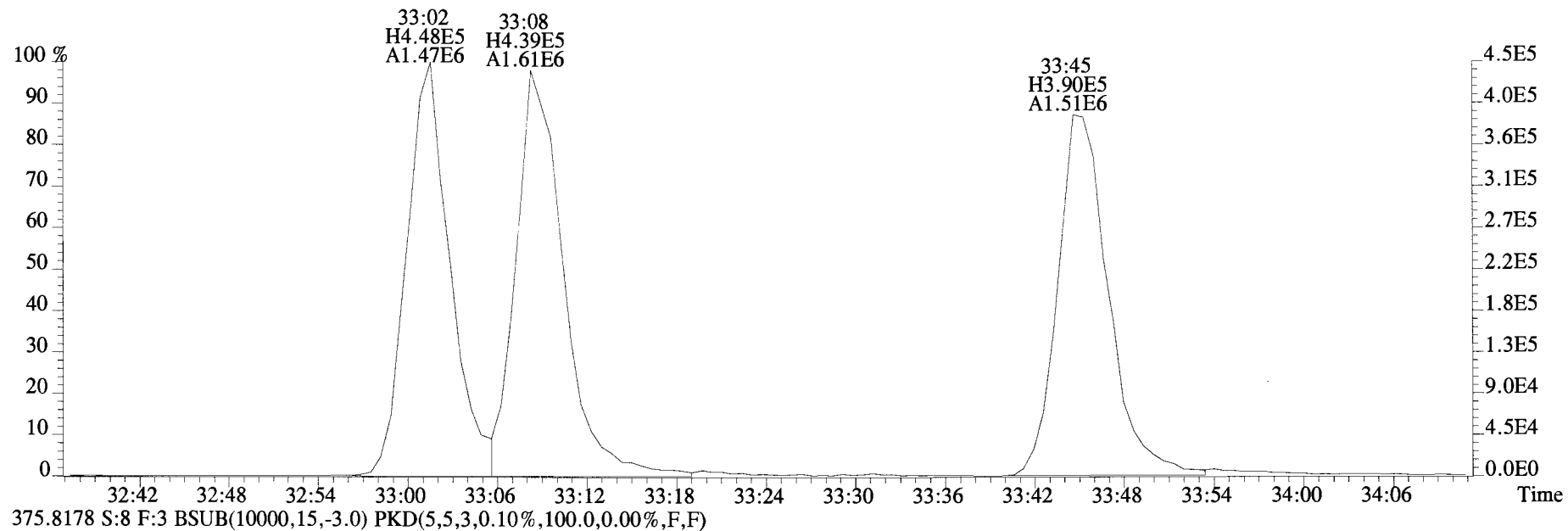
385.8610 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



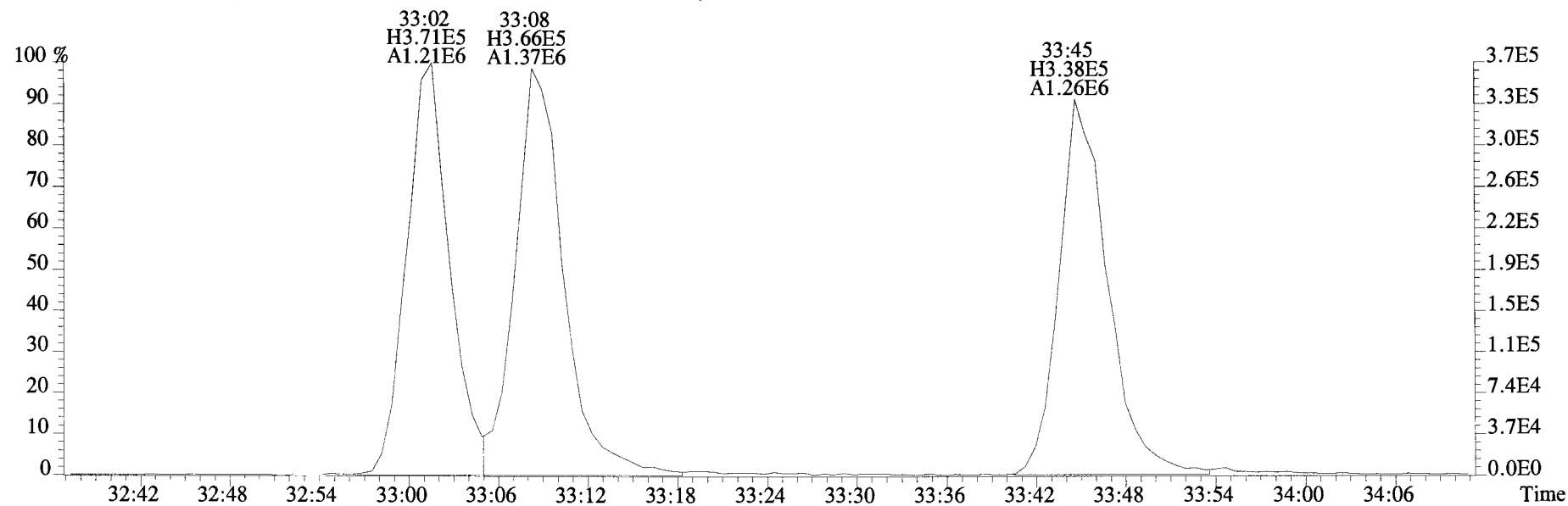
445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



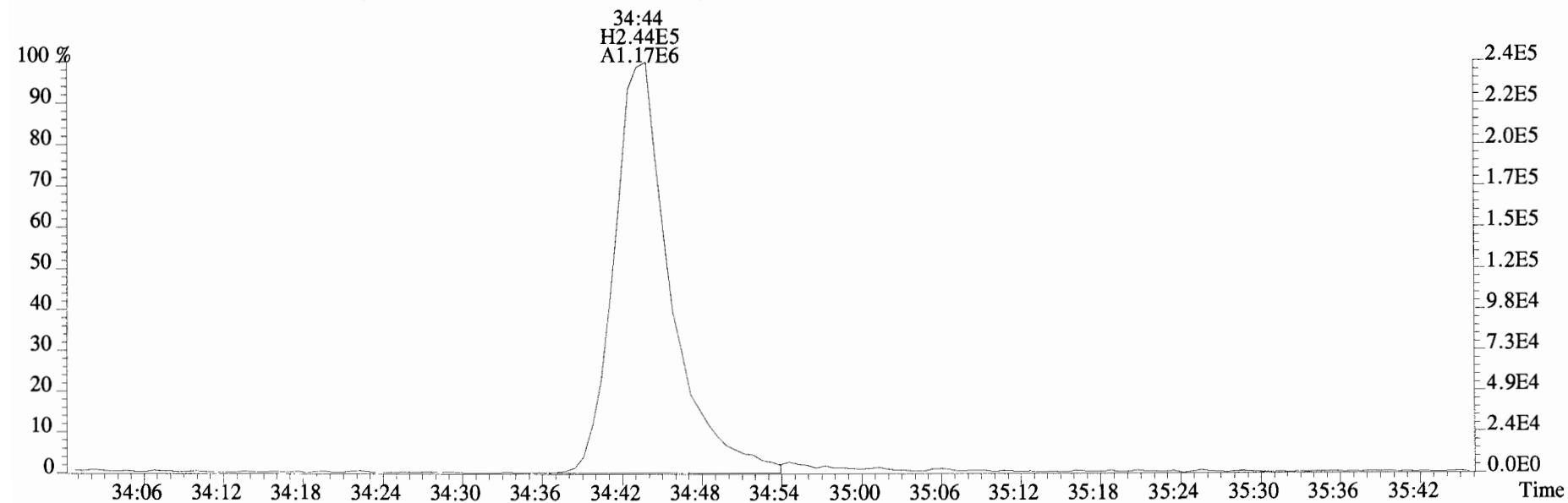
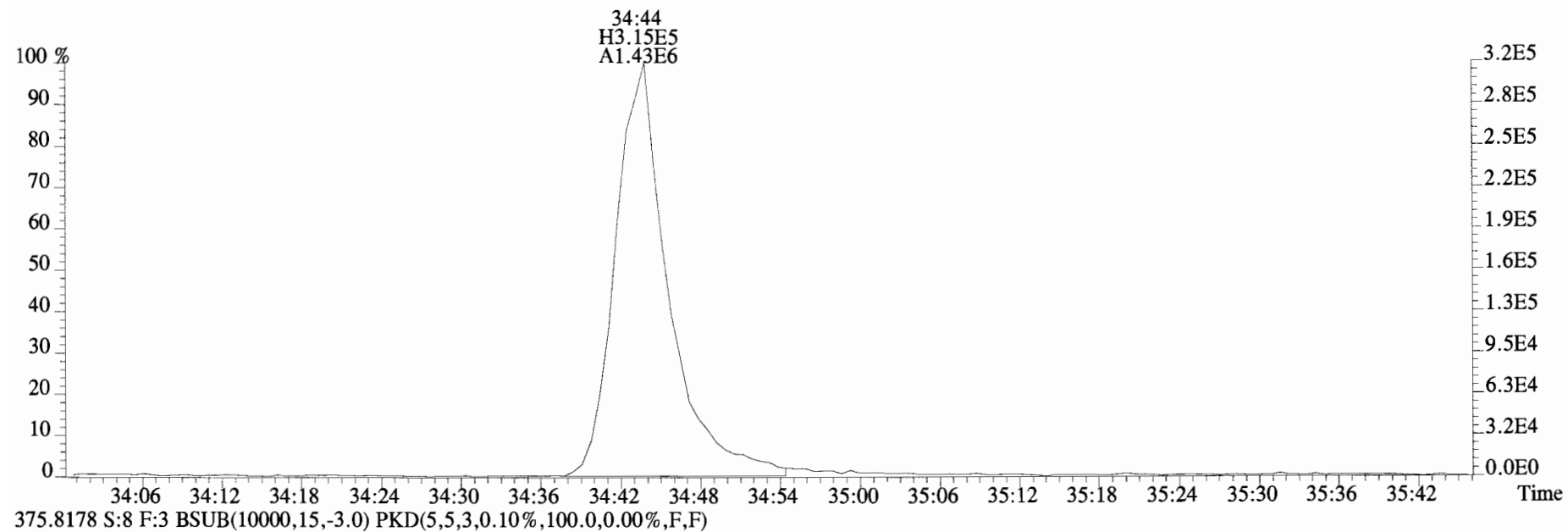
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



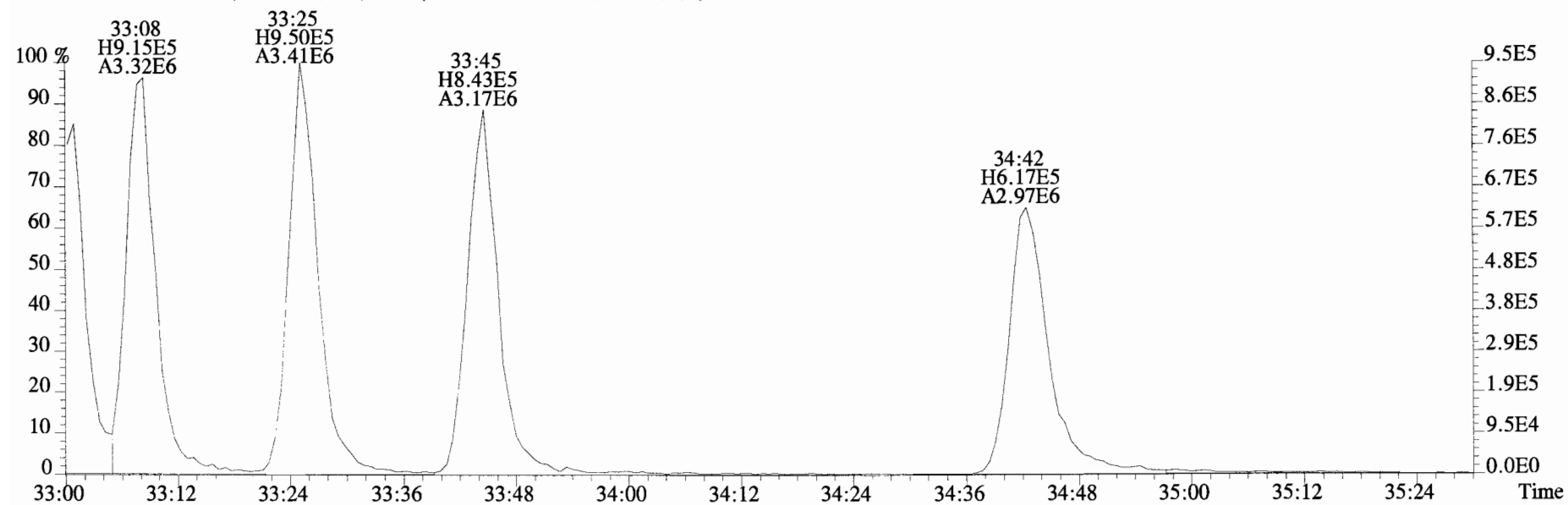
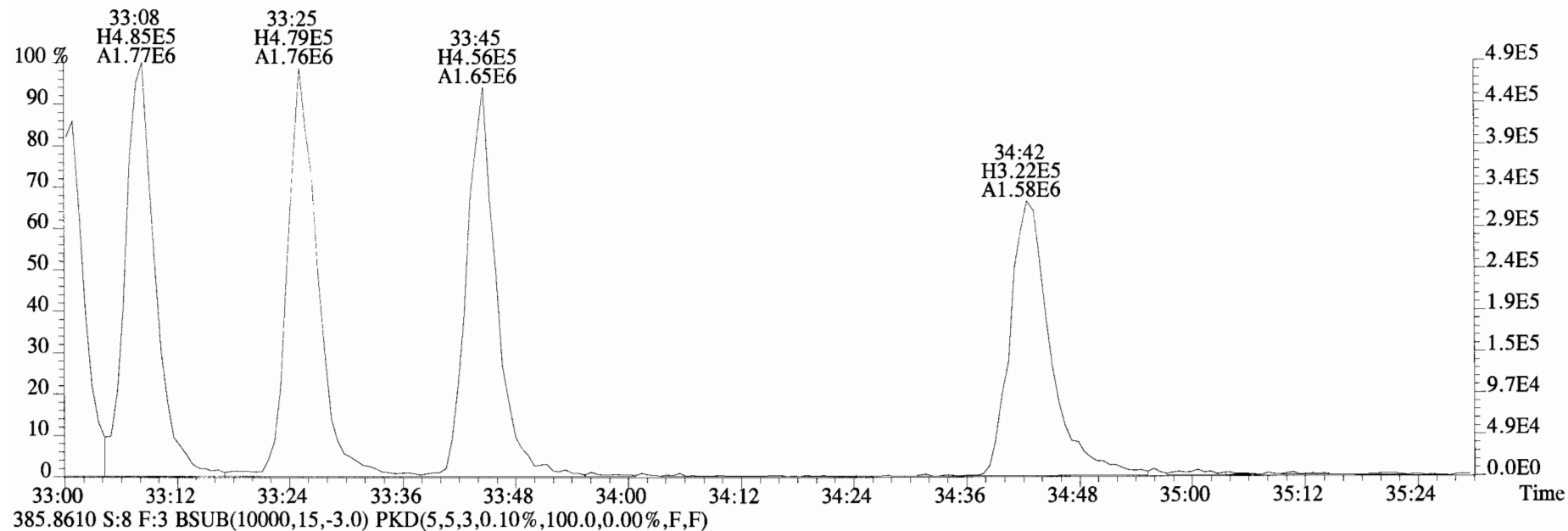
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



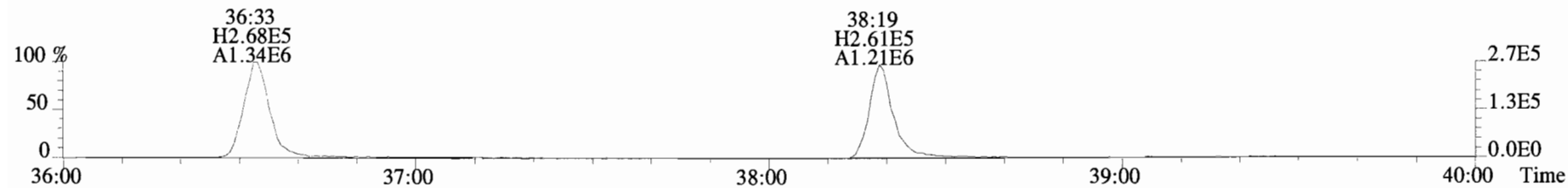
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



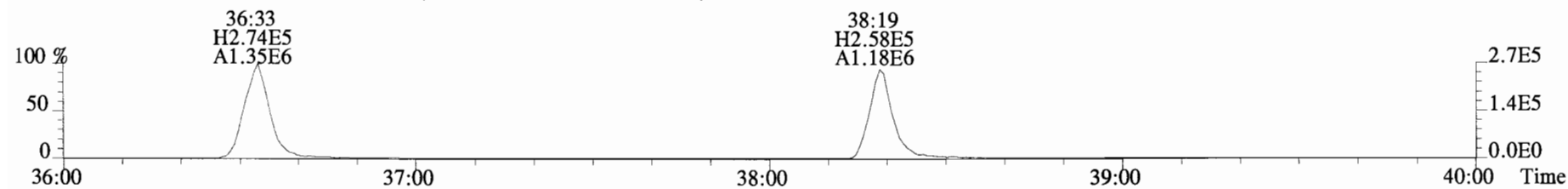
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



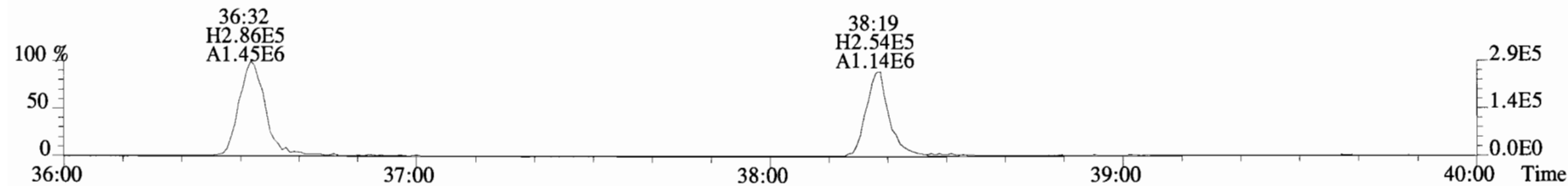
File:190510D2 #1-355 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



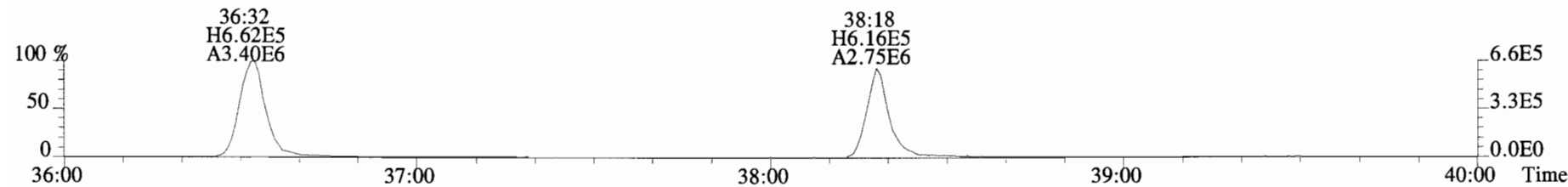
409.7788 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



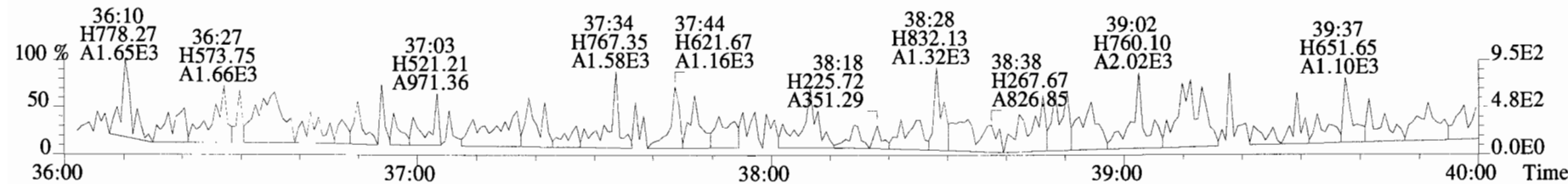
417.8253 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



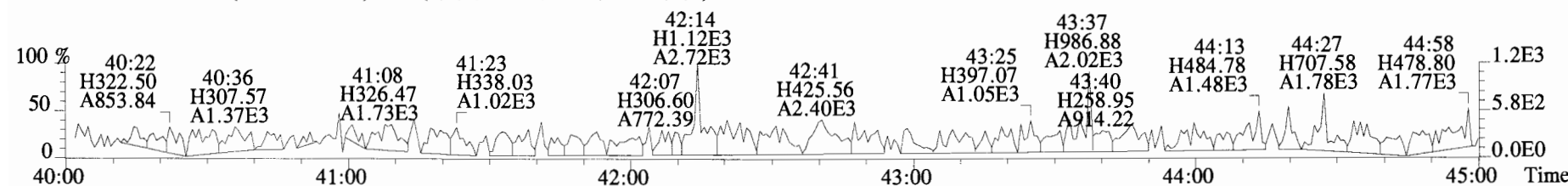
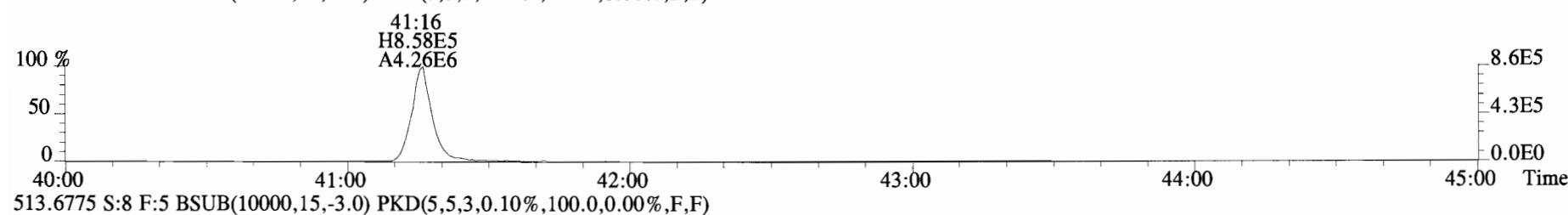
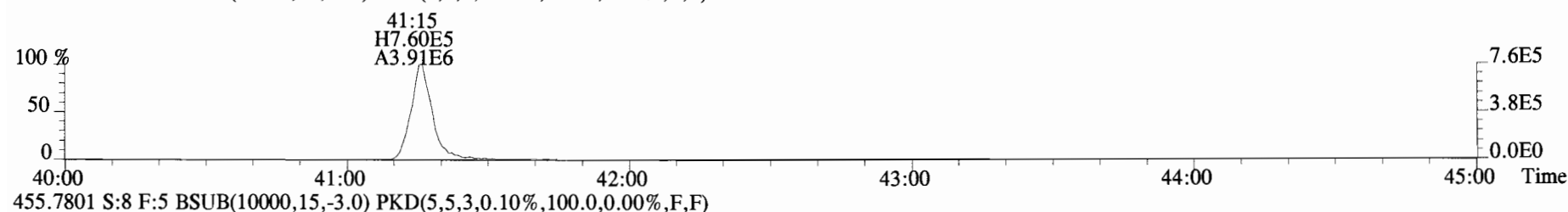
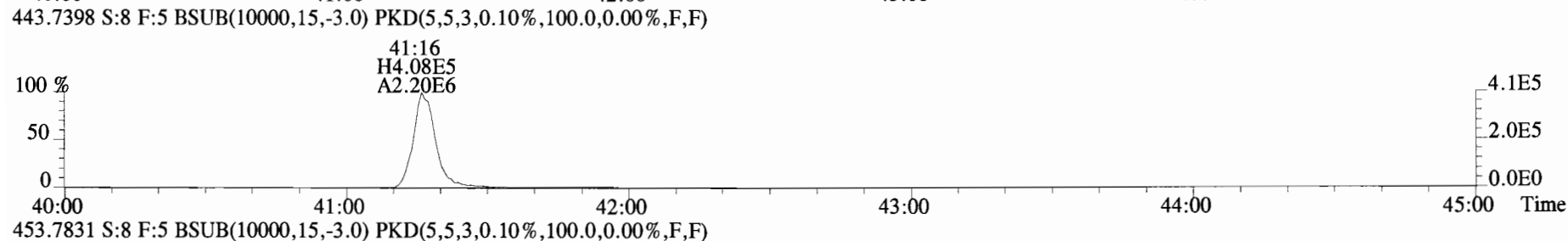
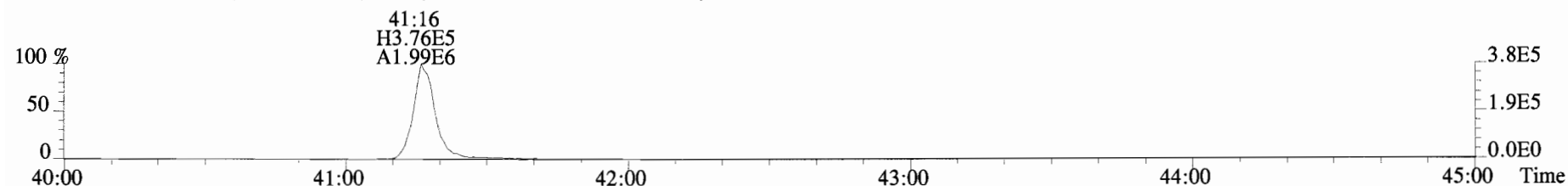
419.8220 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



479.7165 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190510D2 #1-432 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190510D2-7

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.73	0.65-0.89	y	10.7	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	50.7	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	y	48.1	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	48.8	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.18	1.05-1.43	y	47.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	50.7	43.0 - 58.0
OCDD	M+2/M+4	0.91	0.76-1.02	y	97.6	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	8.80	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	49.4	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	49.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.14	1.05-1.43	y	46.6	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	49.7	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	y	49.1	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.18	1.05-1.43	y	48.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.97	0.88-1.20	y	48.8	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88-1.20	y	48.7	43.0 - 58.0
OCDF	M+2/M+4	0.91	0.76-1.02	y	103	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 5/13/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	y	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	y	89.6	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	105	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	104	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	y	105	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	y	98.9	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	y	209	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.79	0.65-0.89	y	106	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	y	96.0	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	93.6	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	99.8	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	101	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.42	0.37-0.51	y	98.8	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	101	77.0 - 129.0
13C-OCDF	M+2/M+4	0.92	0.76-1.02	y	196	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.02	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 5/13/19

FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 5-10-19

RT Window Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

ZB-5MS IS Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:50	1,3,6,8-TCDF (F)	20:44
1,2,8,9-TCDD (L)	27:01	1,2,8,9-TCDF (L)	27:11
1,2,4,7,9-PeCDD (F)	28:34	1,3,4,6,8-PeCDF (F)	27:05
1,2,3,8,9-PeCDD (L)	30:58	1,2,3,8,9-PeCDF (L)	31:13
1,2,4,6,7,9-HxCDD (F)	32:21	1,2,3,4,6,8-HxCDF (F)	31:49
1,2,3,7,8,9-HxCDD (L)	34:19	1,2,3,7,8,9-HxCDF (L)	34:43
1,2,3,4,6,7,9-HpCDD (F)	36:54	1,2,3,4,6,7,8-HpCDF (F)	36:32
1,2,3,4,6,7,8-HpCDD (L)	37:45	1,2,3,4,7,8,9-HpCDF (L)	38:18

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DBDate: 5/13/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.000	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.196	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.151	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.186	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052

Analyst: DB

Date: 5/13/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.001	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.146	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 5/13/19

Client ID: 1613 CS3 19C2204
Lab ID: ST190510D2-7

Filename: 190510D2 S:18 Acq:11-MAY-19 03:54:32
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190510D2-4
EndCAL: ST190510D2-7

Page 9 of 9

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	7.10e+05	0.73 y	0.90	26:10	10.716		* 2.5	*	
	1,2,3,7,8-PeCDD	2.54e+06	0.63 y	0.87	30:36	50.710		* 2.5	*	
	1,2,3,4,7,8-HxCDD	2.51e+06	1.19 y	1.05	33:54	48.059		* 2.5	*	
	1,2,3,6,7,8-HxCDD	2.79e+06	1.21 y	0.93	34:00	48.777		* 2.5	*	
	1,2,3,7,8,9-HxCDD	2.78e+06	1.18 y	0.96	34:19	47.912		* 2.5	*	
	1,2,3,4,6,7,8-HpCDD	2.39e+06	1.05 y	0.99	37:45	50.718		* 2.5	*	
	OCDD	4.42e+06	0.91 y	0.99	41:02	97.583		* 2.5	*	
	2,3,7,8-TCDF	8.30e+05	0.78 y	0.94	25:25	8.7982		* 2.5	*	
	1,2,3,7,8-PeCDF	3.75e+06	1.62 y	0.92	29:27	49.387		* 2.5	*	
	2,3,4,7,8-PeCDF	3.74e+06	1.61 y	0.96	30:20	49.704		* 2.5	*	
	1,2,3,4,7,8-HxCDF	3.24e+06	1.14 y	1.15	33:00	46.598		* 2.5	*	
	1,2,3,6,7,8-HxCDF	3.78e+06	1.22 y	1.04	33:08	49.707		* 2.5	*	
	2,3,4,6,7,8-HxCDF	3.66e+06	1.18 y	1.10	33:44	49.056		* 2.5	*	
	1,2,3,7,8,9-HxCDF	3.07e+06	1.18 y	1.03	34:43	48.289		* 2.5	*	
	1,2,3,4,6,7,8-HpCDF	2.92e+06	0.97 y	1.06	36:32	48.759		* 2.5	*	
	1,2,3,4,7,8,9-HpCDF	2.68e+06	1.00 y	1.23	38:18	48.717		* 2.5	*	
	OCDF	5.19e+06	0.91 y	0.94	41:16	102.58		* 2.5	*	
IS	13C-2,3,7,8-TCDD	7.36e+06	0.80 y	1.11	26:09	101.34				
IS	13C-1,2,3,7,8-PeCDD	5.74e+06	0.61 y	0.98	30:35	89.585				
IS	13C-1,2,3,4,7,8-HxCDD	4.97e+06	1.27 y	0.68	33:53	104.58				
IS	13C-1,2,3,6,7,8-HxCDD	6.16e+06	1.22 y	0.84	33:59	103.99				
IS	13C-1,2,3,7,8,9-HxCDD	6.02e+06	1.25 y	0.81	34:17	105.34				
IS	13C-1,2,3,4,6,7,8-HpCDD	4.77e+06	1.02 y	0.69	37:44	98.871				
IS	13C-OCDD	9.18e+06	0.91 y	0.62	41:01	208.71				
IS	13C-2,3,7,8-TCDF	1.00e+07	0.79 y	1.05	25:25	105.95				
IS	13C-1,2,3,7,8-PeCDF	8.23e+06	1.55 y	0.95	29:26	96.004				
IS	13C-2,3,4,7,8-PeCDF	7.87e+06	1.61 y	0.94	30:19	93.631				
IS	13C-1,2,3,4,7,8-HxCDF	6.02e+06	0.51 y	0.86	32:59	99.806				
IS	13C-1,2,3,6,7,8-HxCDF	7.33e+06	0.51 y	1.02	33:07	101.97				
IS	13C-2,3,4,6,7,8-HxCDF	6.81e+06	0.51 y	0.95	33:43	101.53				
IS	13C-1,2,3,7,8,9-HxCDF	6.16e+06	0.52 y	0.87	34:42	100.95				
IS	13C-1,2,3,4,6,7,8-HpCDF	5.62e+06	0.42 y	0.81	36:31	98.759				
IS	13C-1,2,3,4,7,8,9-HpCDF	4.48e+06	0.44 y	0.63	38:18	100.75				
IS	13C-OCDF	1.08e+07	0.92 y	0.78	41:15	195.62				
C/Up	37Cl-2,3,7,8-TCDD	7.21e+05		1.22	26:10	9.0209				
RS/RT	13C-1,2,3,4-TCDD	6.57e+06	0.79 y	1.00	25:35	100.00				
RS	13C-1,2,3,4-TCDF	8.98e+06	0.81 y	1.00	24:11	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.04e+06	0.51 y	1.00	33:24	100.00				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	73.0	74.4		*	*
Total Penta-Dioxins	189	189		*	*
Total Hexa-Dioxins	211	211		*	*
Total Hepta-Dioxins	115	117		*	*
Total Tetra-Furans	34.7	36.4		*	*
Total Penta-Furans	236.06	237.33		*	*
Total Hexa-Furans	258	259		*	*
Total Hepta-Furans	99.2	101		*	*

Rec Qual

101
89.6
105
104
105
98.9
104
106
96.0
93.6
99.8
102
102
101
98.8
101
97.8

Integrations
by
Analyst: DB

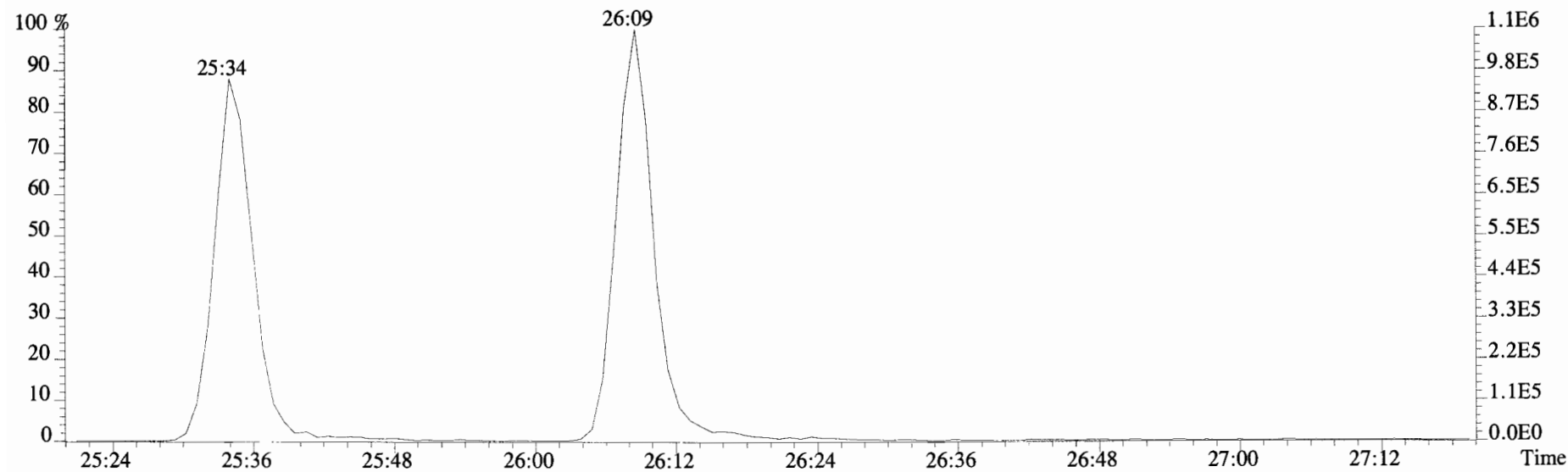
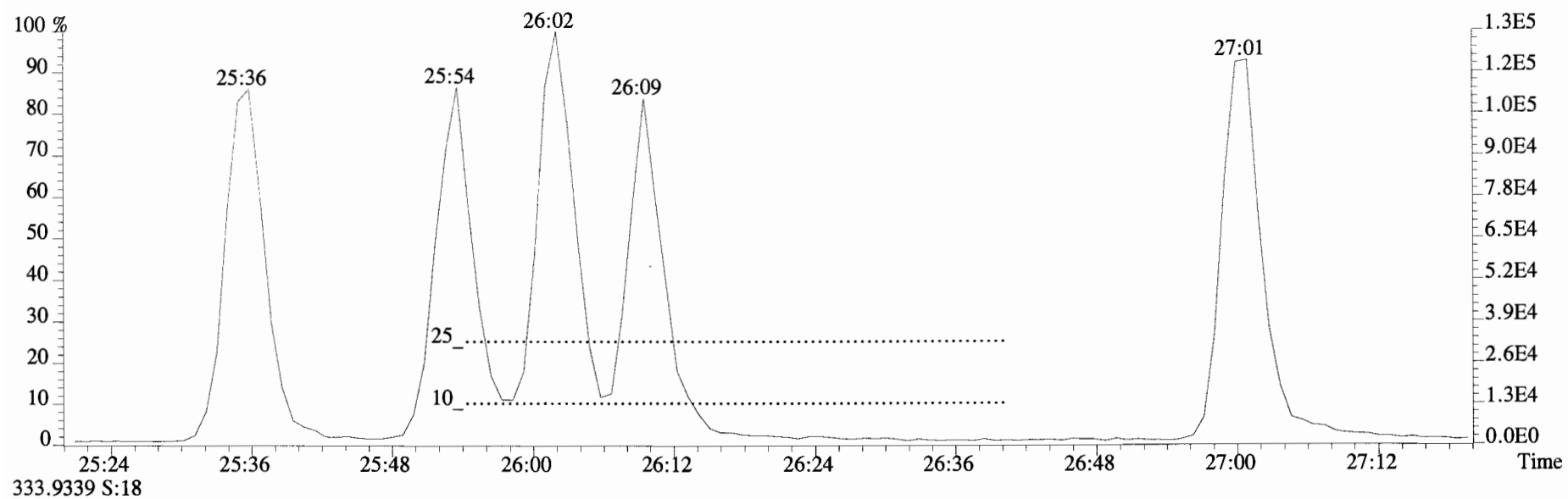
Date: 5/14/19

Reviewed
by
Analyst: ms

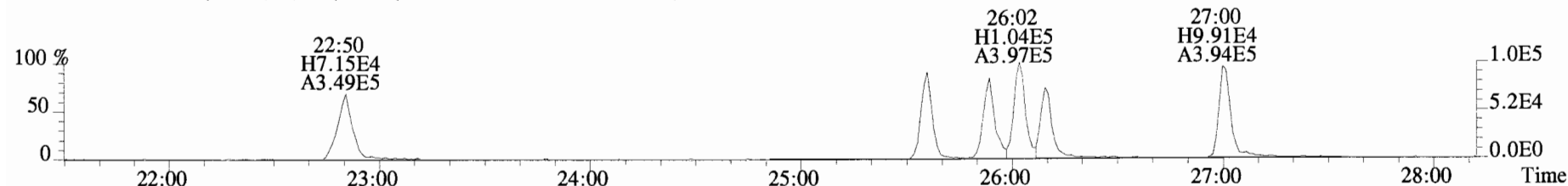
Date: 5/14/19

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190510D2	1	ST190510D2-1	DB	10-MAY-19	14:24:45	ST190510D2-4	NA
190510D2	2	ST190510D2-2	DB	10-MAY-19	15:12:30	ST190510D2-4	NA
190510D2	3	ST190510D2-3	DB	10-MAY-19	16:00:06	ST190510D2-4	NA
190510D2	4	ST190510D2-4	DB	10-MAY-19	16:47:52	ST190510D2-4	ST190510D2-7
190510D2	5	ST190510D2-5	DB	10-MAY-19	17:35:29	ST190510D2-4	NA
190510D2	6	ST190510D2-6	DB	10-MAY-19	18:23:05	ST190510D2-4	NA
190510D2	7	SOLVENT BLANK	DB	10-MAY-19	19:10:42	NA	NA
190510D2	8	SS190510D2-1	DB	10-MAY-19	19:58:17	ST190510D2-4	NA
190510D2	9	B9E0067-BS1	DB	10-MAY-19	20:45:54	ST190510D2-4	ST190510D2-7
190510D2	10	SOLVENT BLANK	DB	10-MAY-19	21:33:30	NA	NA
190510D2	11	B9E0067-BLK1	DB	10-MAY-19	22:21:10	ST190510D2-4	ST190510D2-7
190510D2	12	1900874-01	DB	10-MAY-19	23:08:45	ST190510D2-4	ST190510D2-7
190510D2	13	1900832-01	DB	10-MAY-19	23:56:25	ST190510D2-4	NA
190510D2	14	1901011-01	DB	11-MAY-19	00:44:00	ST190510D2-4	NA
190510D2	15	1901009-01	DB	11-MAY-19	01:31:38	ST190510D2-4	NA
190510D2	16	1901010-01	DB	11-MAY-19	02:19:20	ST190510D2-4	NA
190510D2	17	SOLVENT BLANK	DB	11-MAY-19	03:06:55	NA	NA
190510D2	18	ST190510D2-7	DB	11-MAY-19	03:54:32	ST190510D2-4	ST190510D2-7

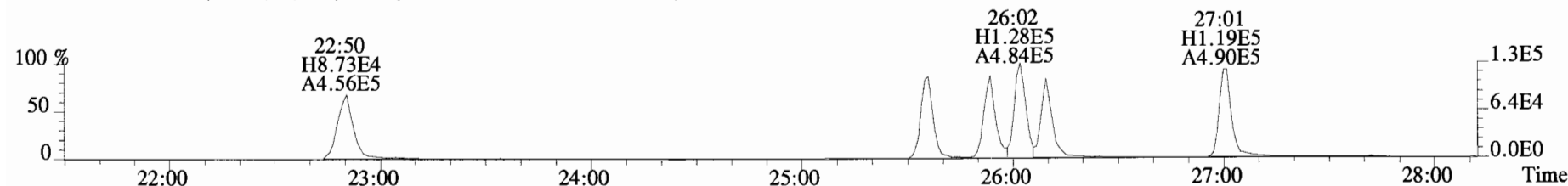
File:190510D2 #1-530 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936 S:18



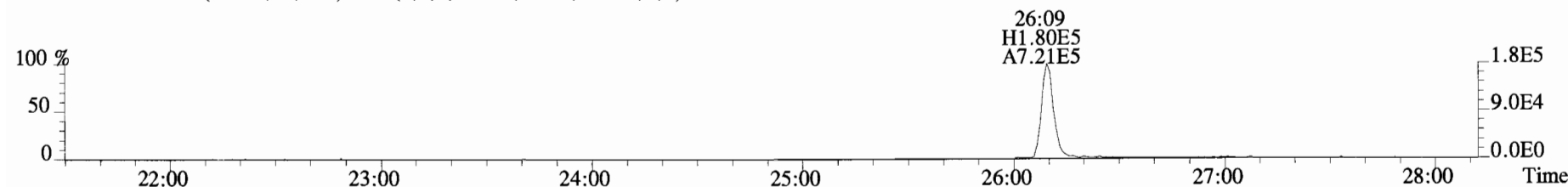
File:190510D2 #1-530 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



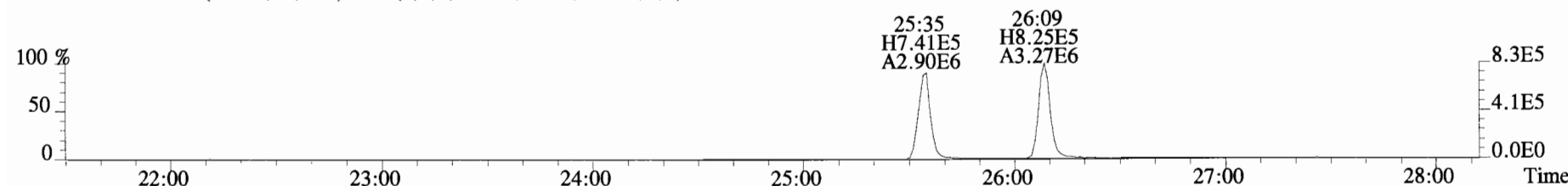
321.8936 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



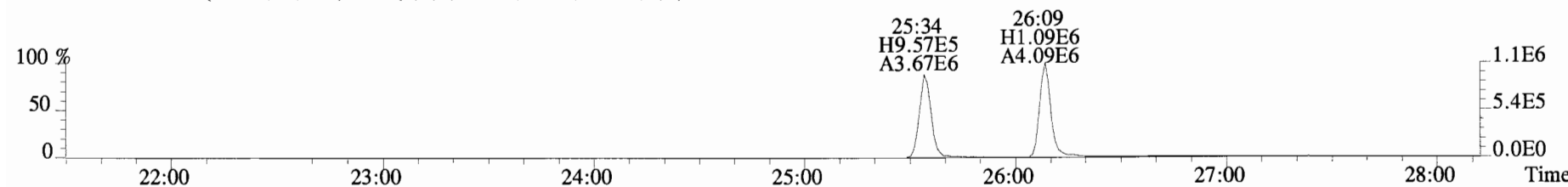
327.8847 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



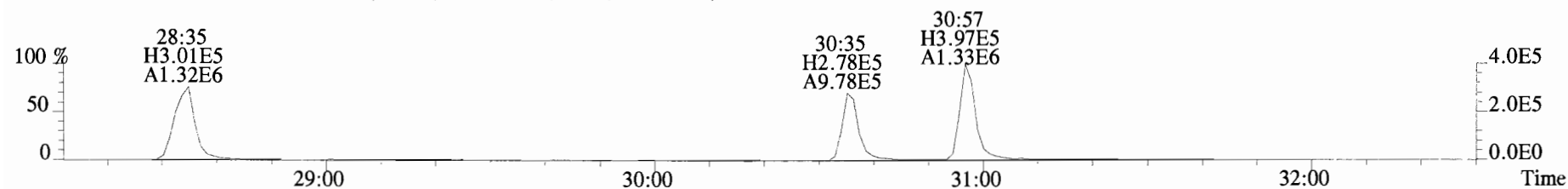
331.9368 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



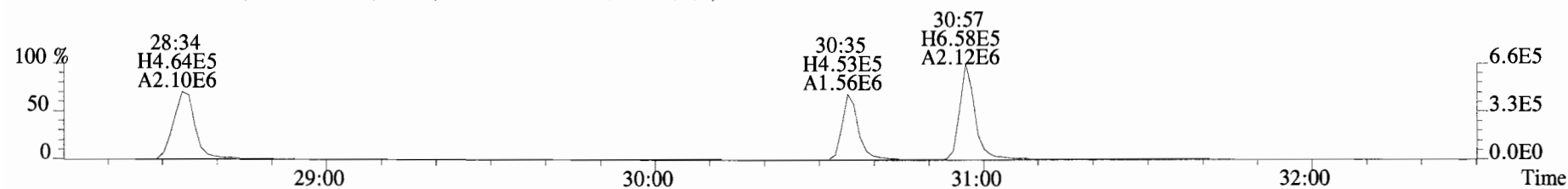
333.9339 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



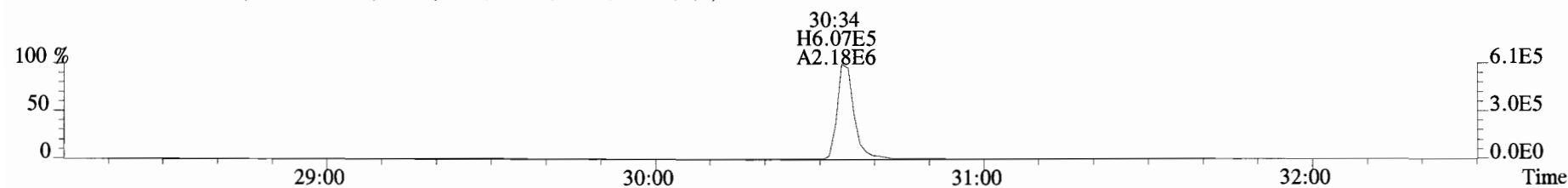
File:190510D2 #1-180 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical_Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 353.8576 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



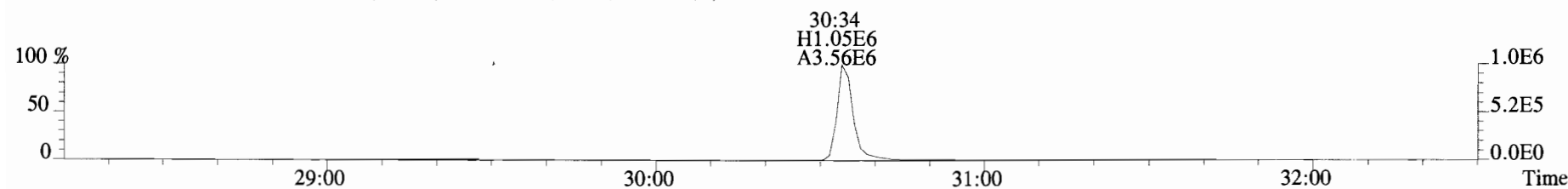
355.8546 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



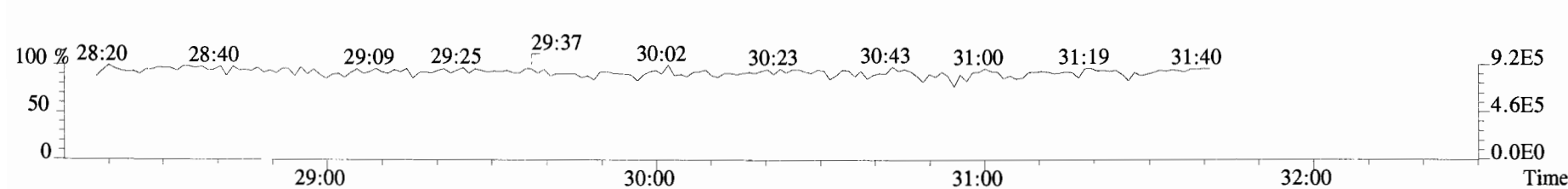
365.8978 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



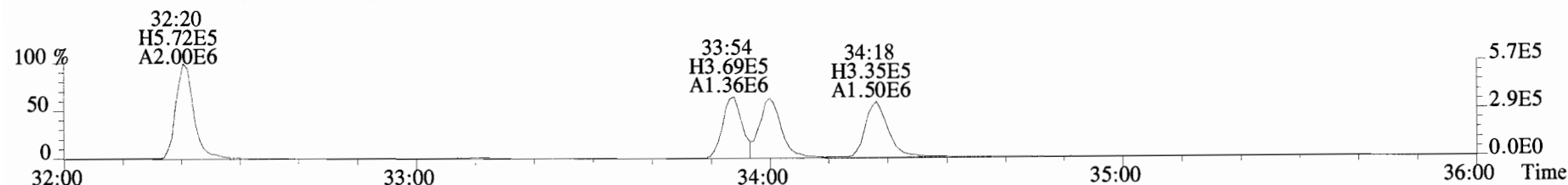
367.8949 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



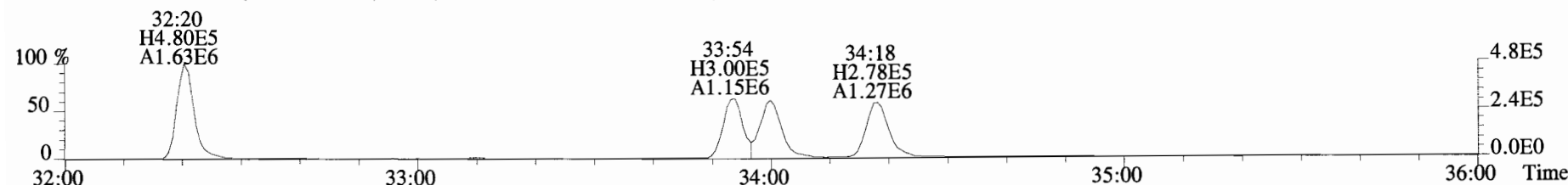
366.9792 S:18 F:2



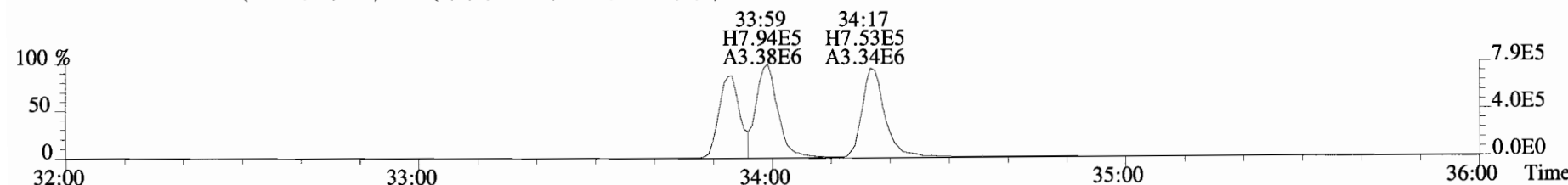
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



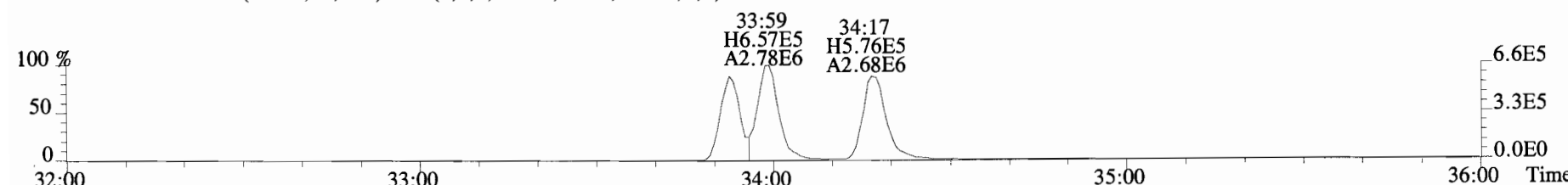
391.8127 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



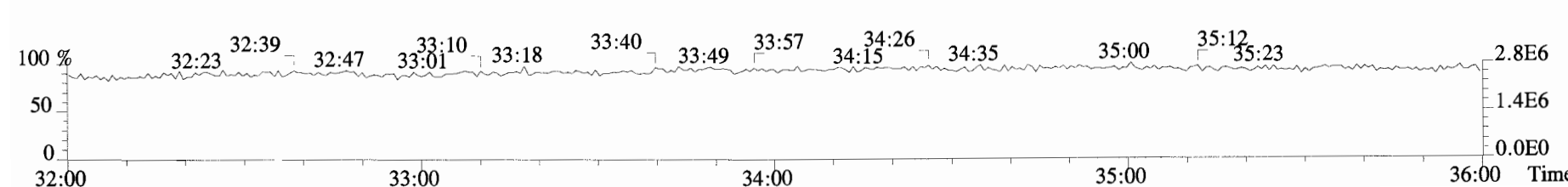
401.8559 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



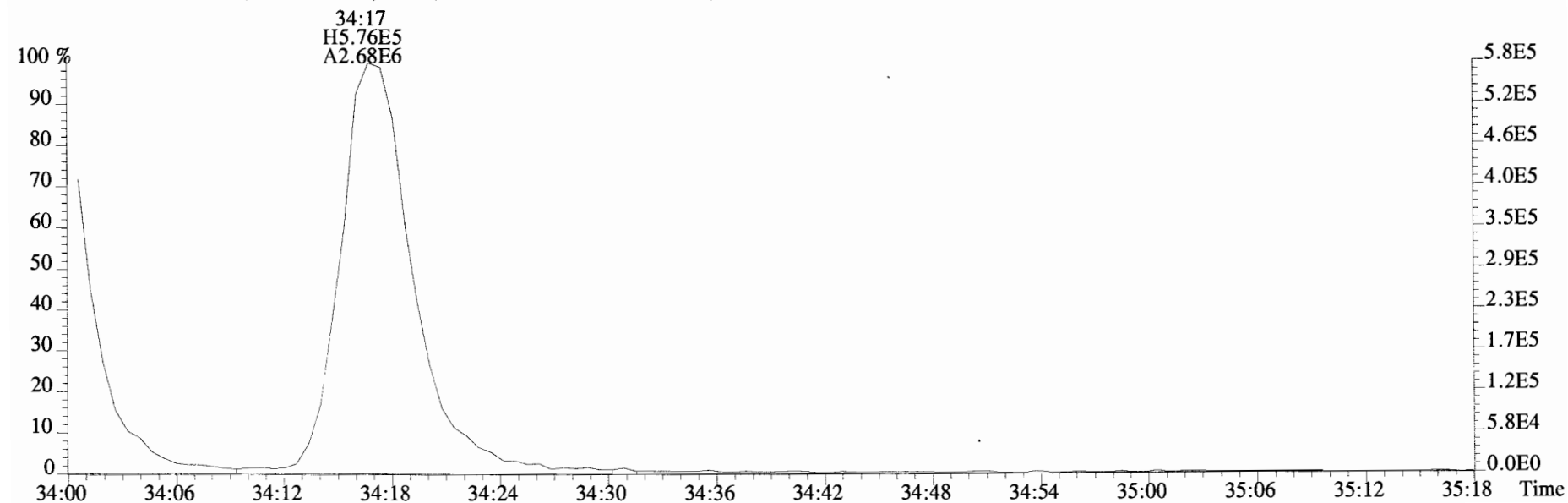
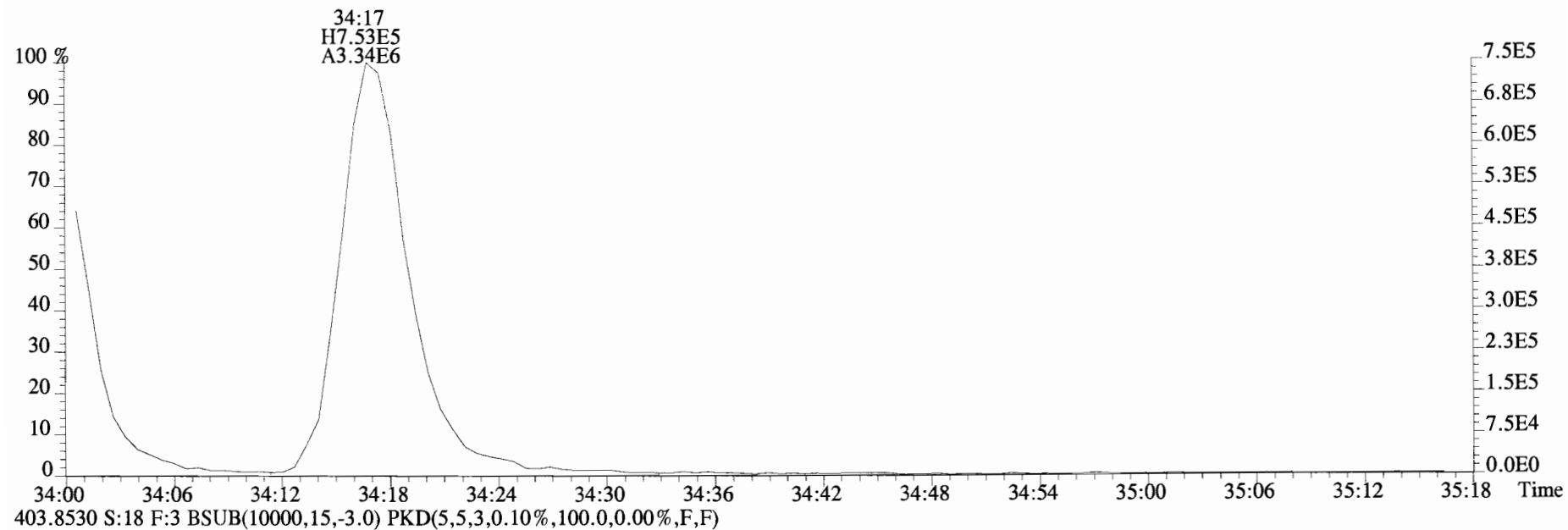
403.8530 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



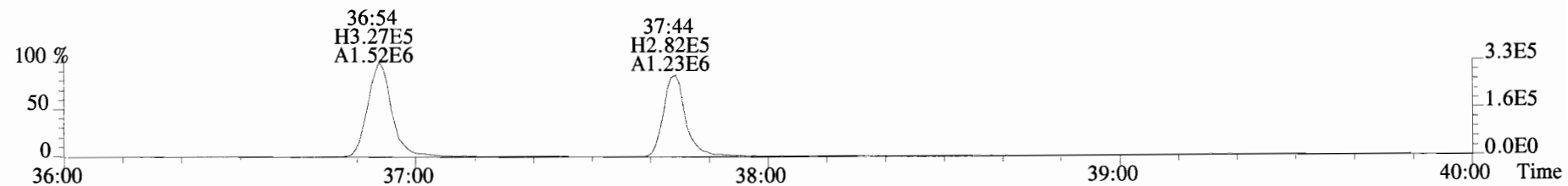
392.9760 S:18 F:3



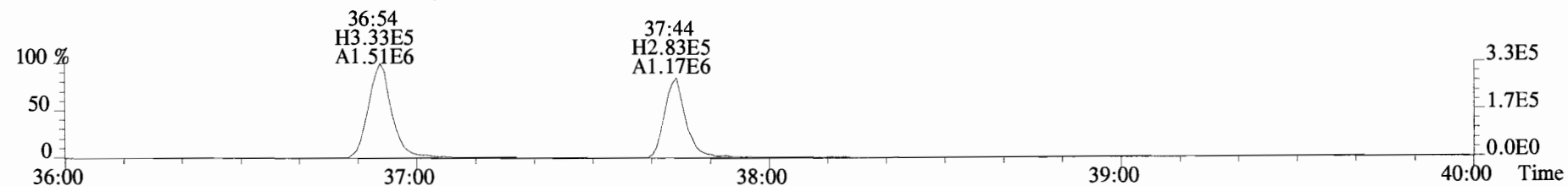
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 S:18 F:3 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



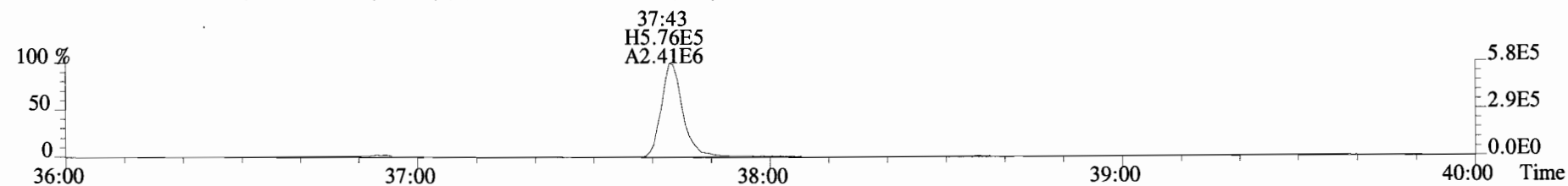
File:190510D2 #1-355 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



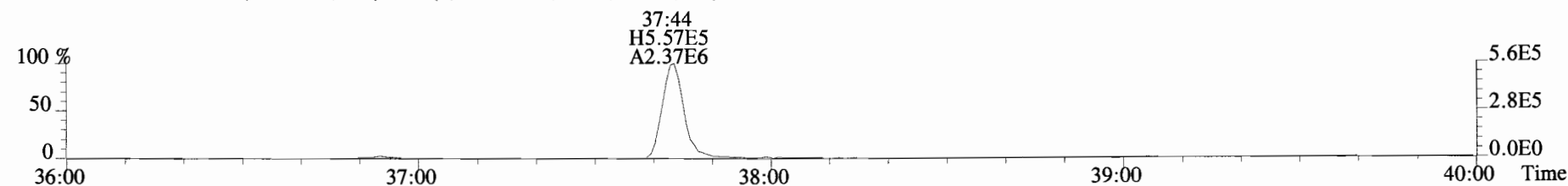
425.7737 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



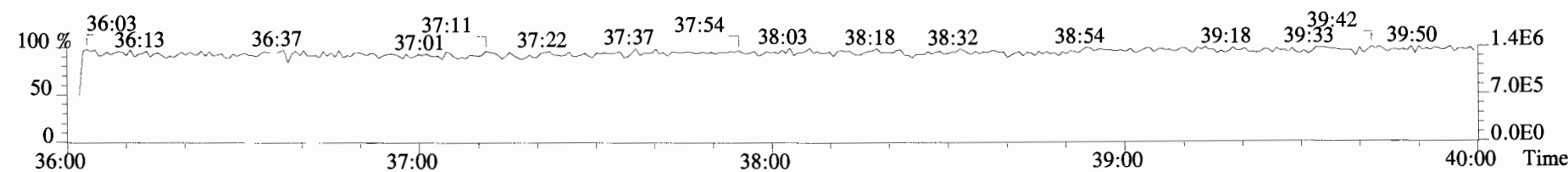
435.8169 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



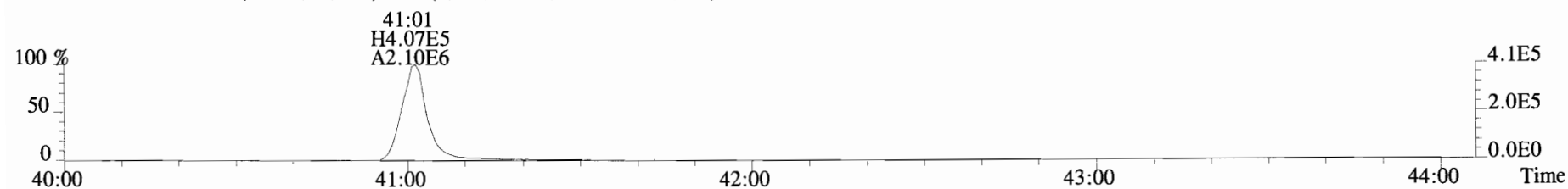
437.8140 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



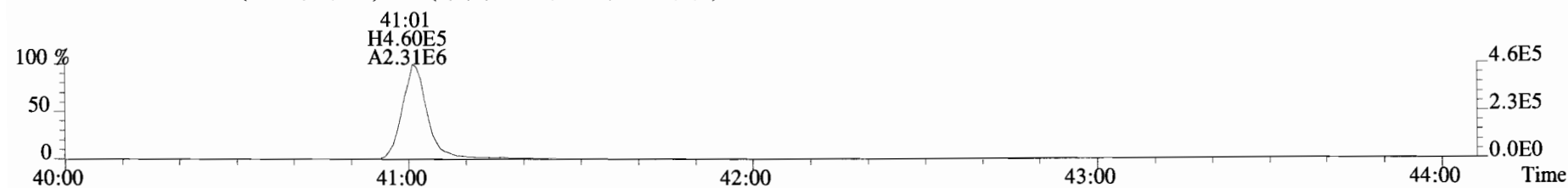
454.9728 S:18 F:4



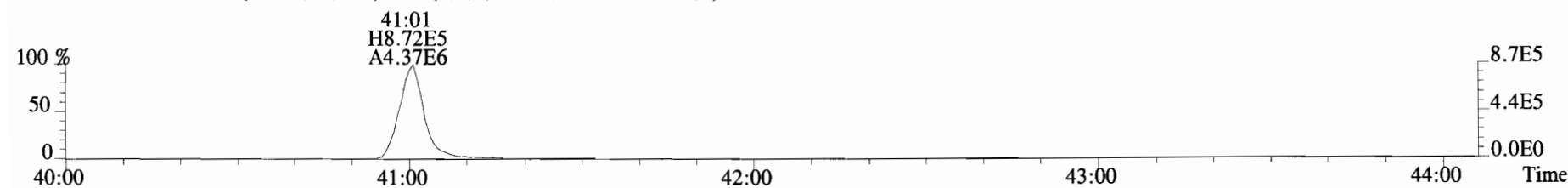
File:190510D2 #1-432 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



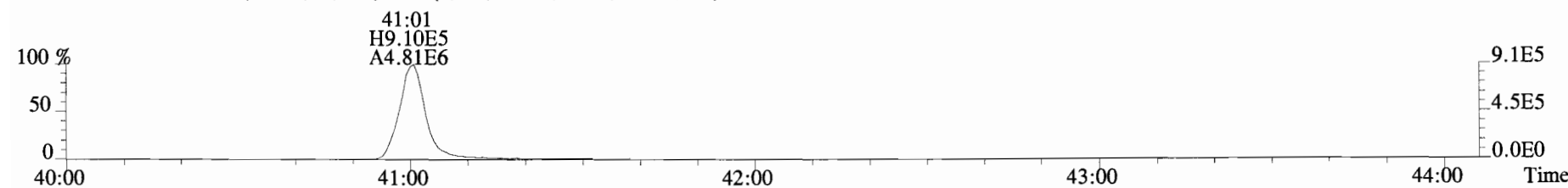
459.7348 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



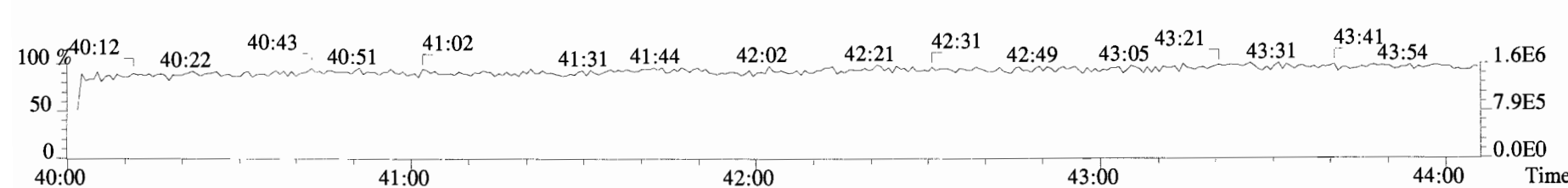
469.7780 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



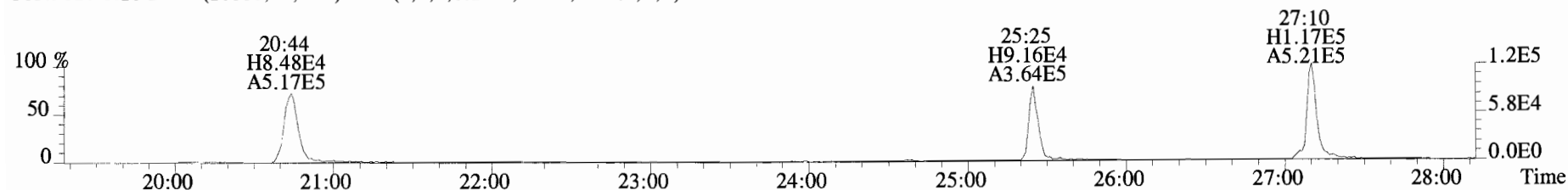
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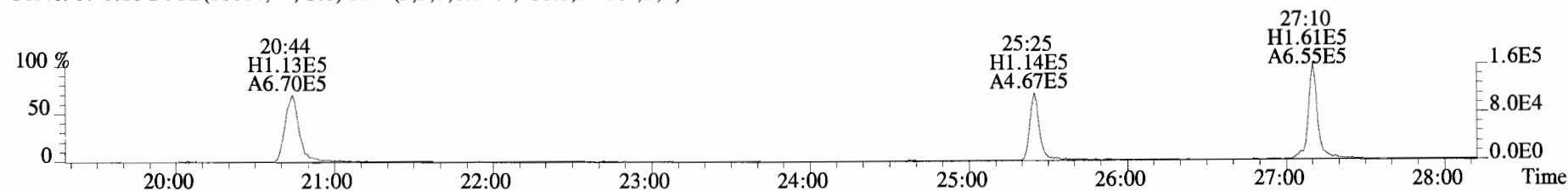
454.9728 S:18 F:5



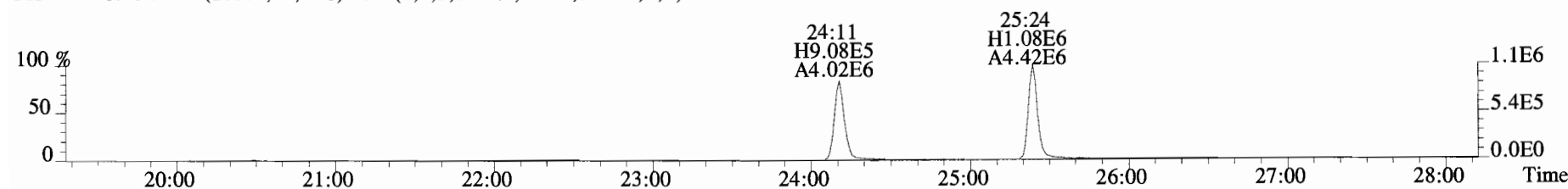
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Sample#18 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



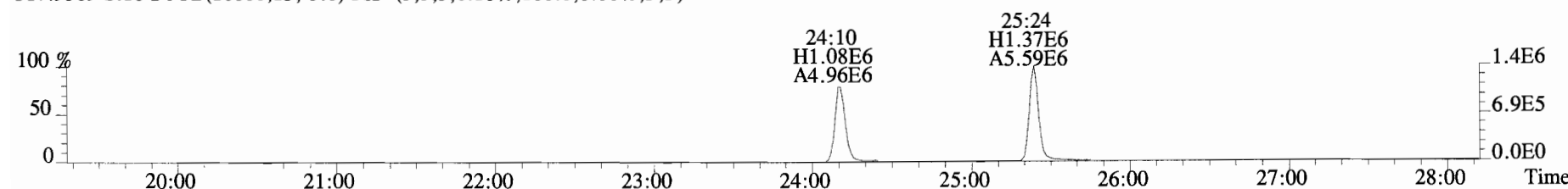
305.8987 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



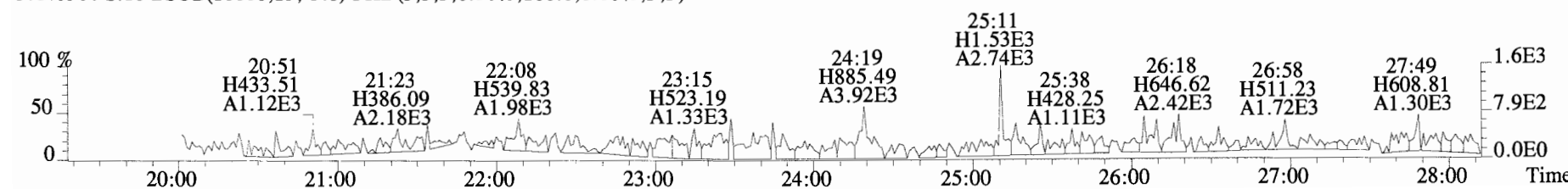
315.9419 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



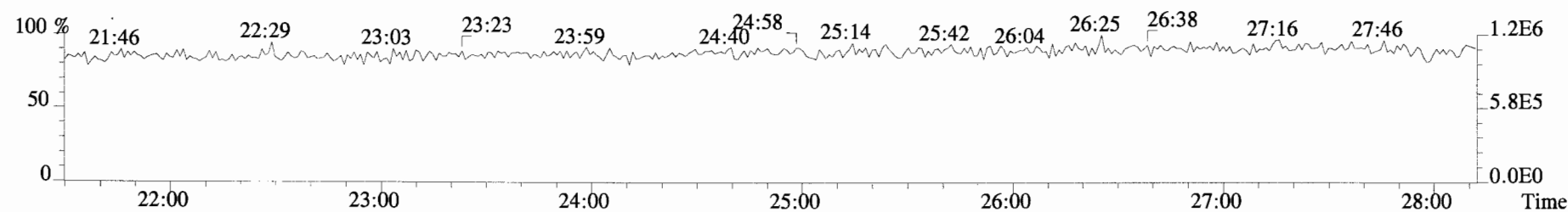
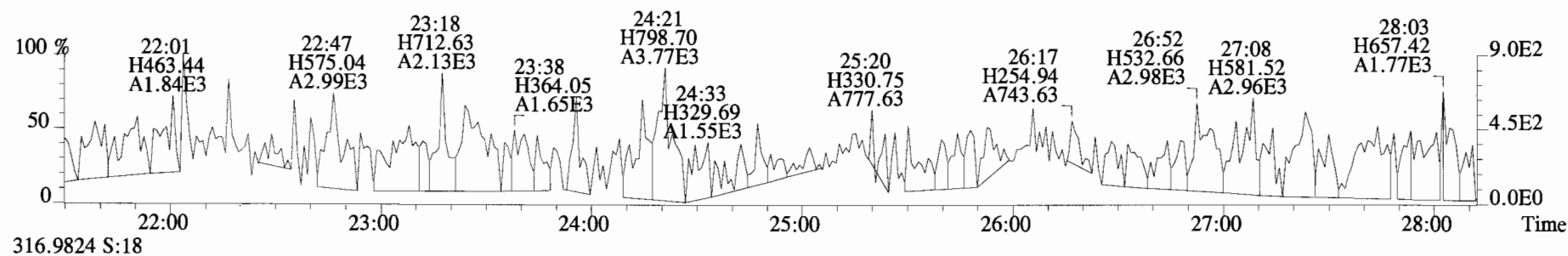
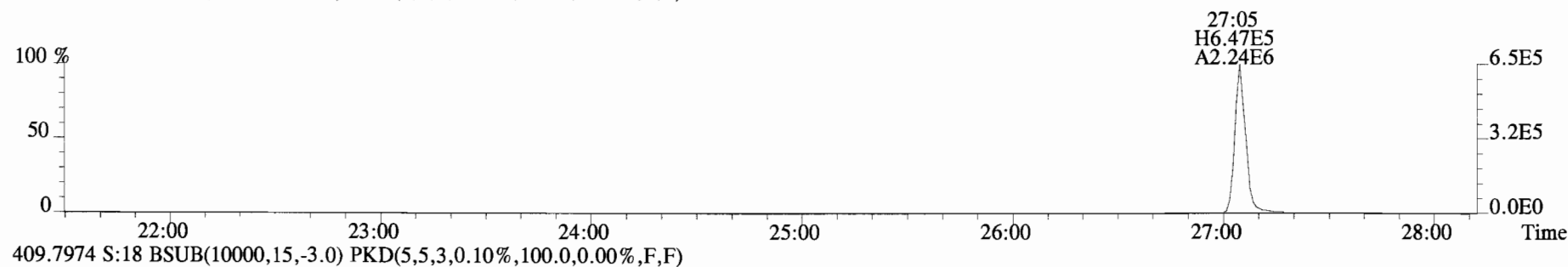
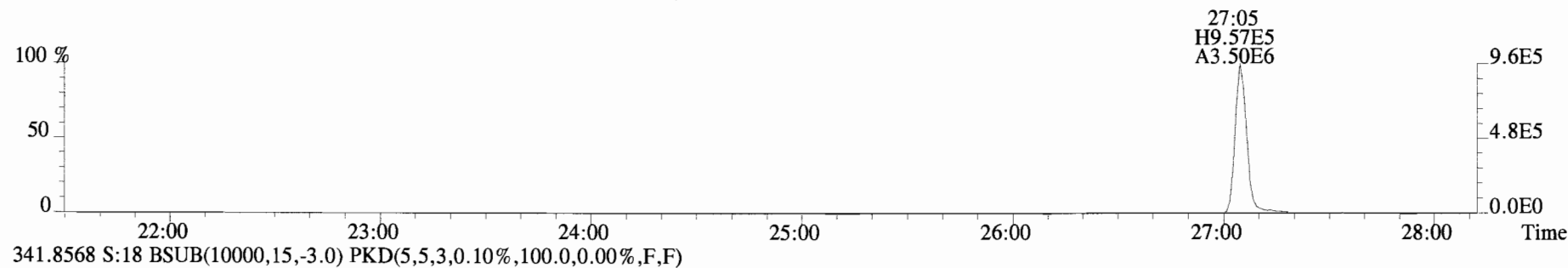
317.9389 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



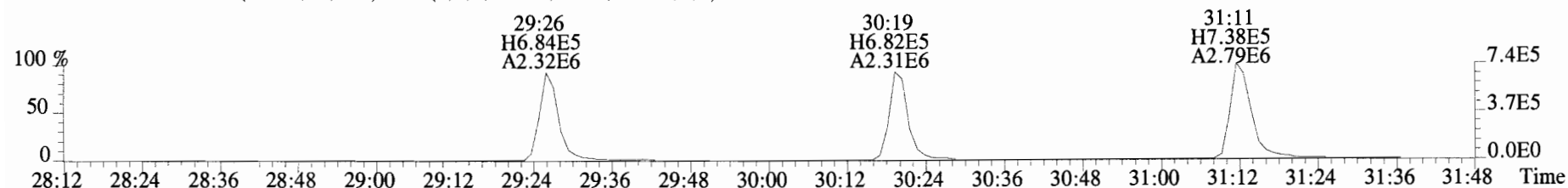
375.8364 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



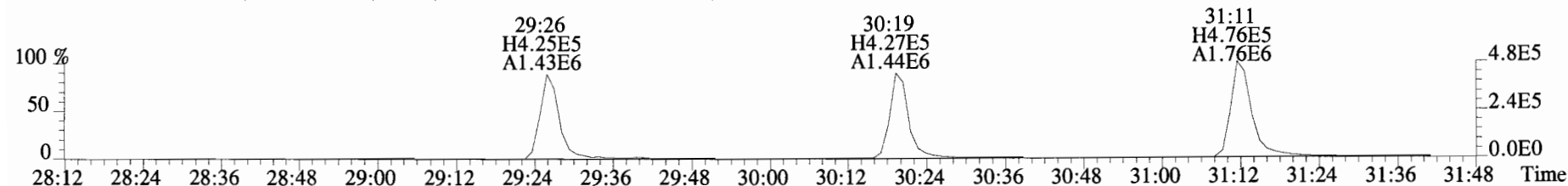
File:190510D2 #1-530 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



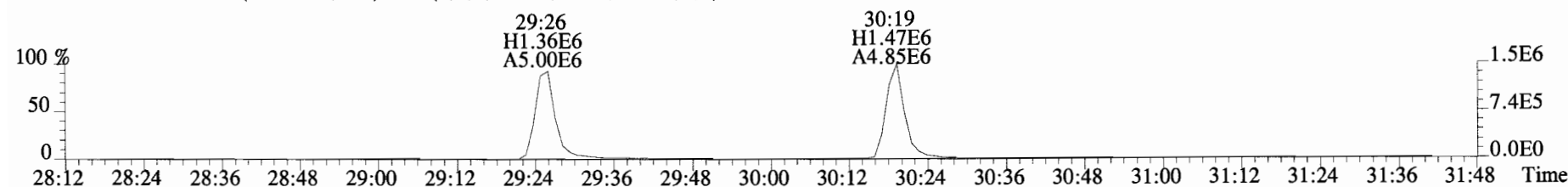
File:190510D2 #1-180 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



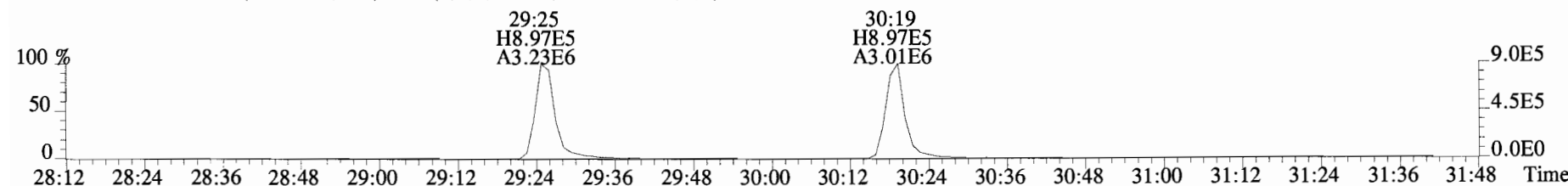
341.8568 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



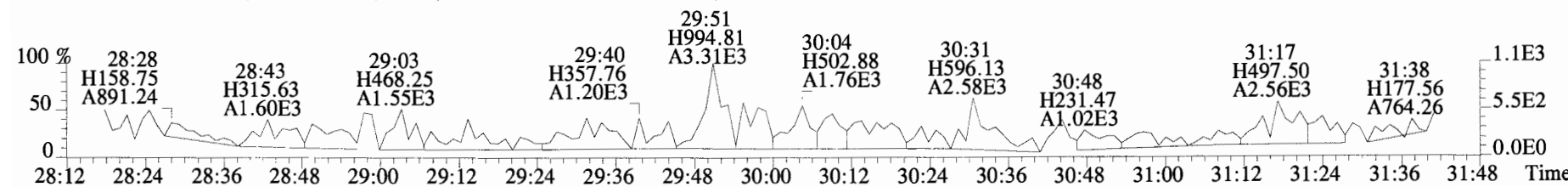
351.9000 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



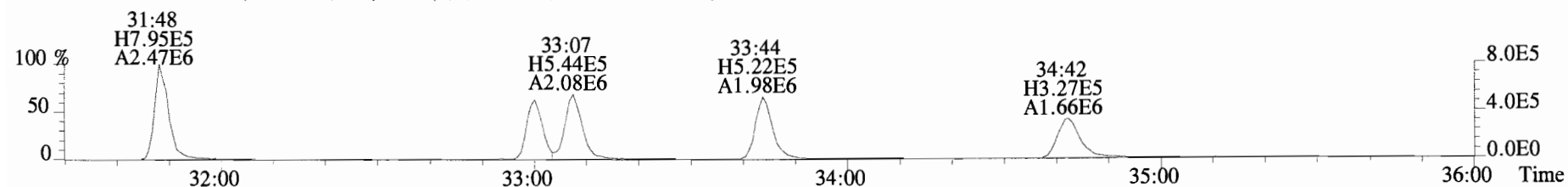
353.8970 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



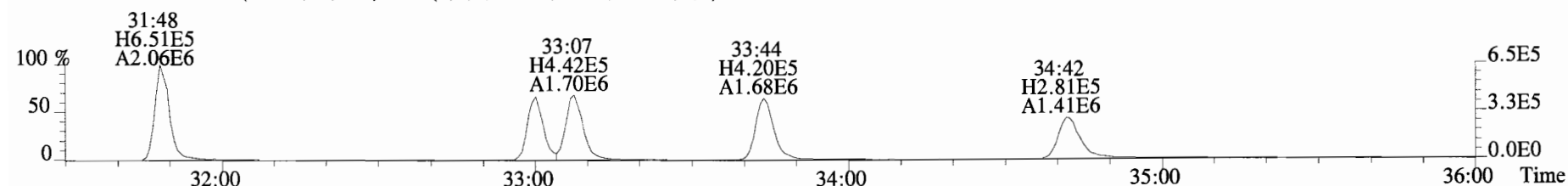
409.7974 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



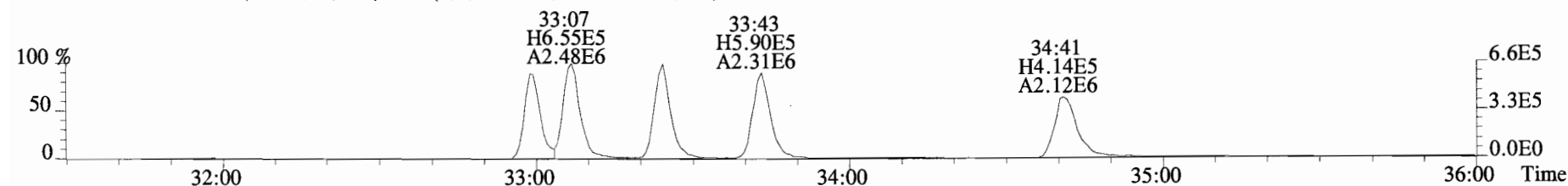
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
373.8207 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



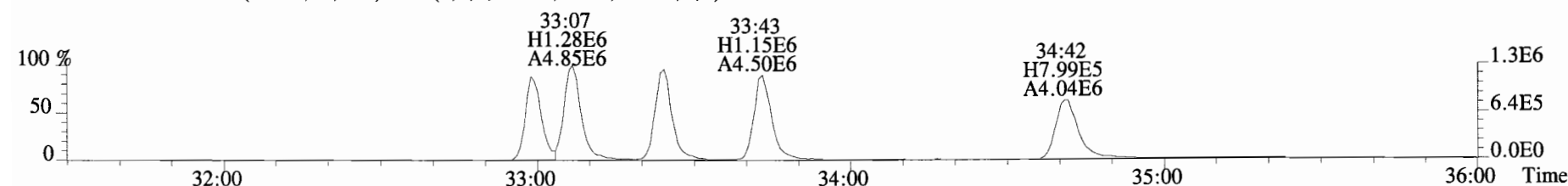
375.8178 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



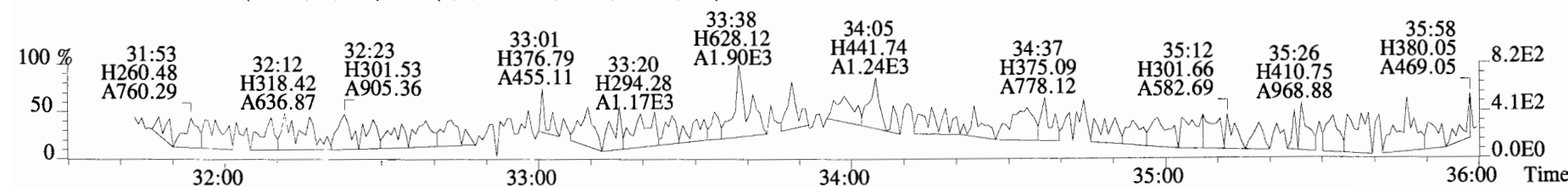
383.8639 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



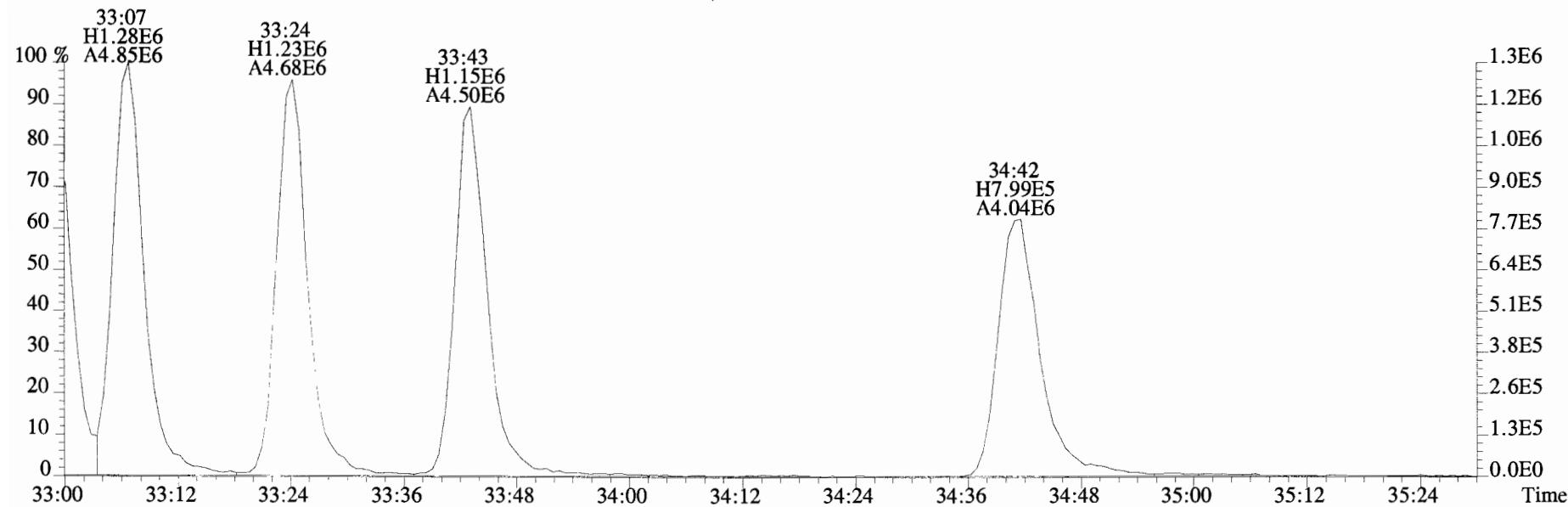
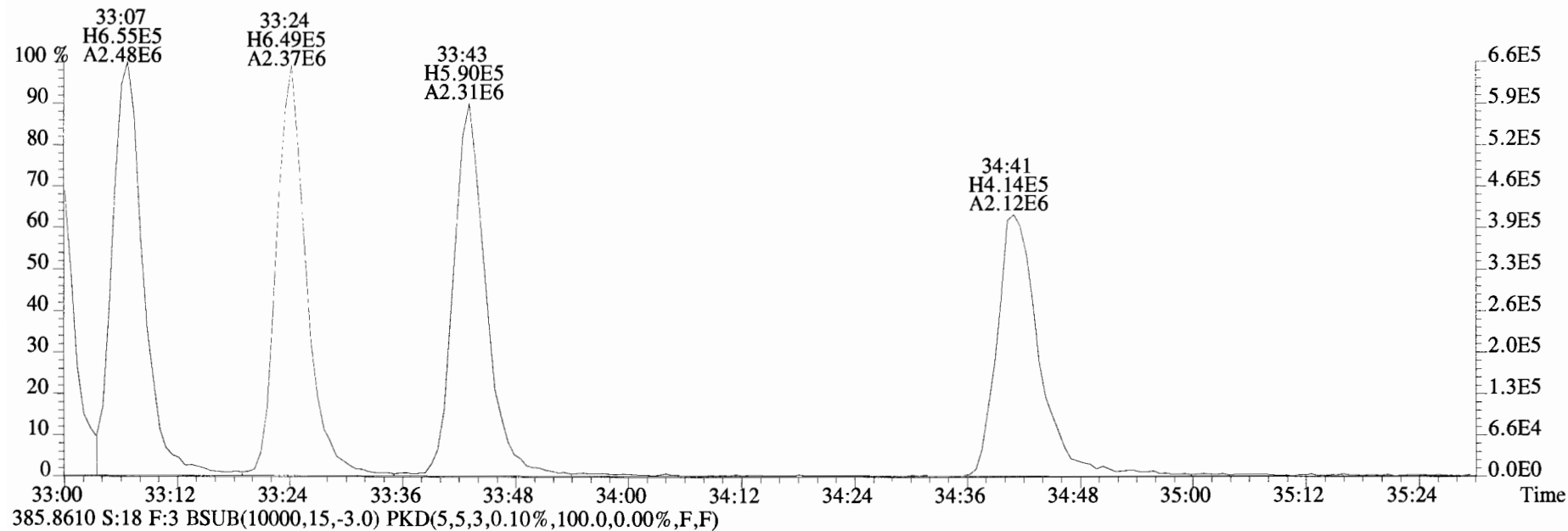
385.8610 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



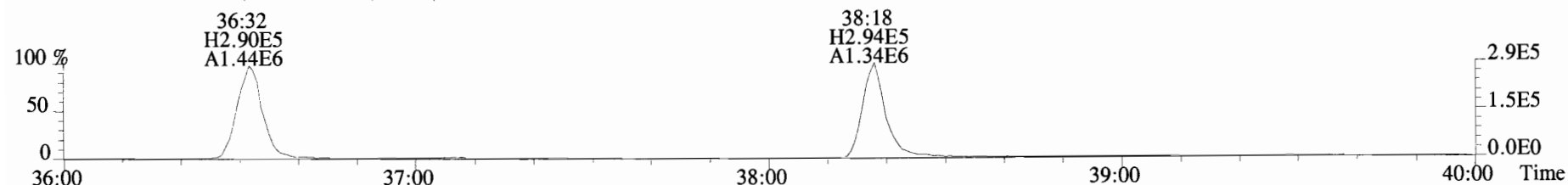
445.7555 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



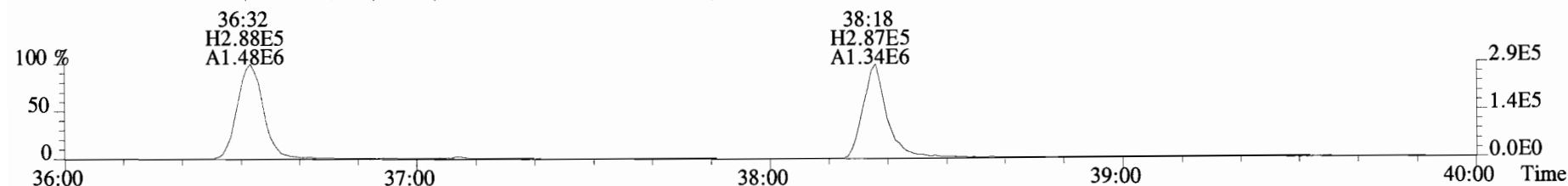
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 383.8639 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



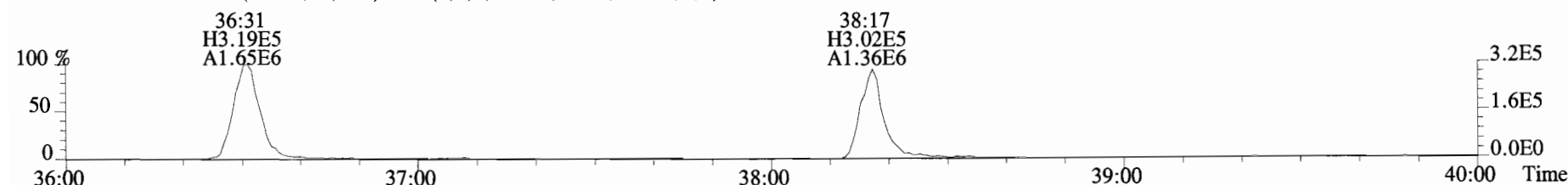
File:190510D2 #1-355 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



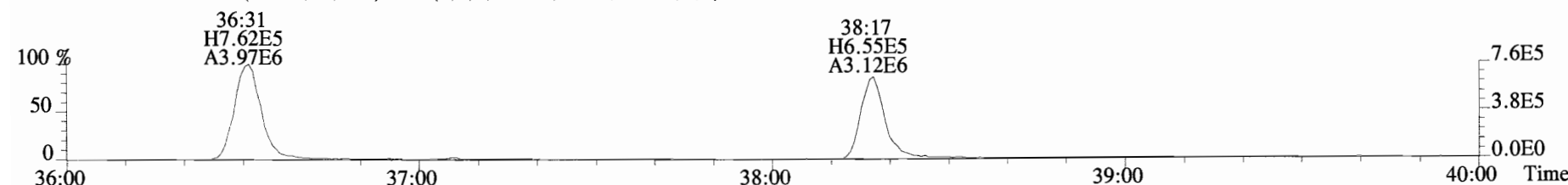
409.7788 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



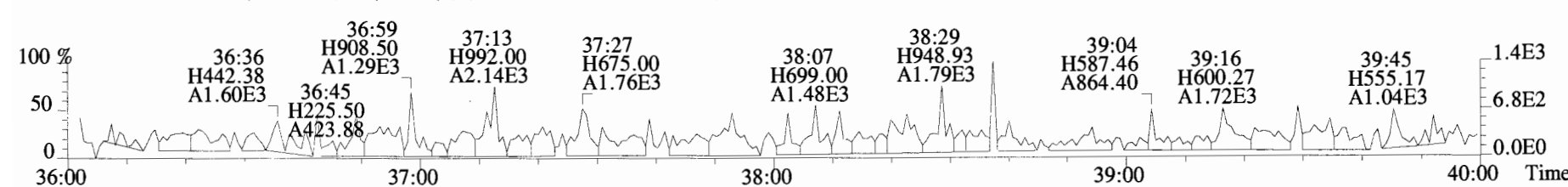
417.8253 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



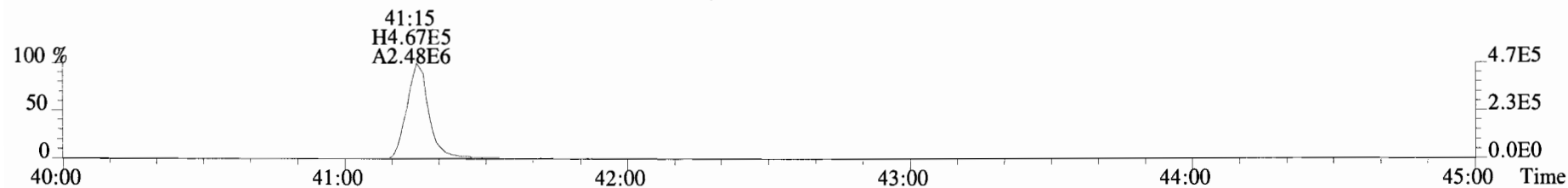
419.8220 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



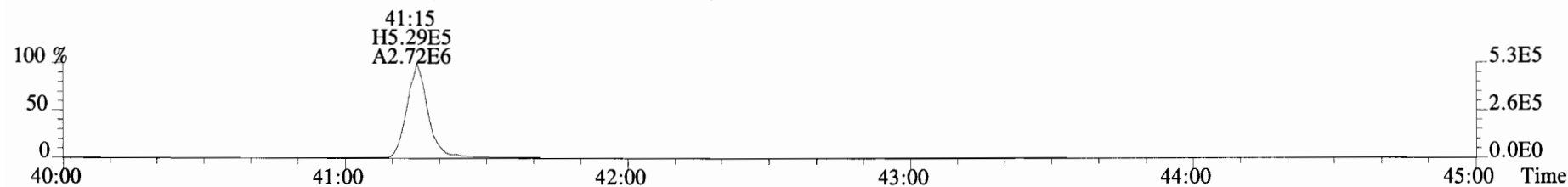
479.7165 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



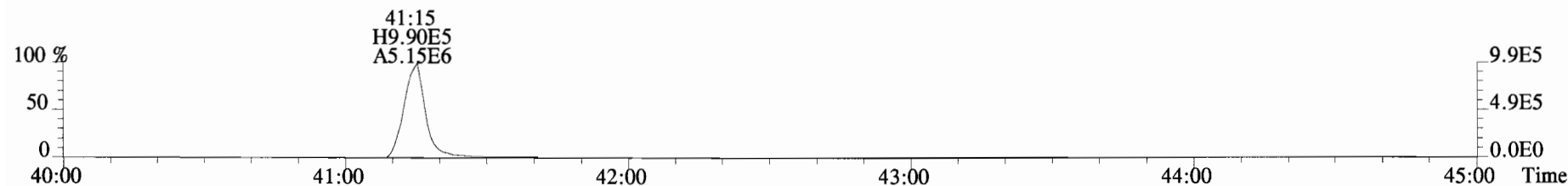
File:190510D2 #1-432 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 441.7428 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



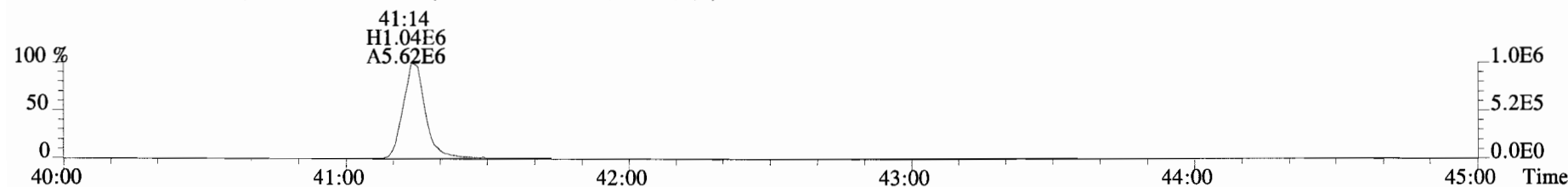
443.7398 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



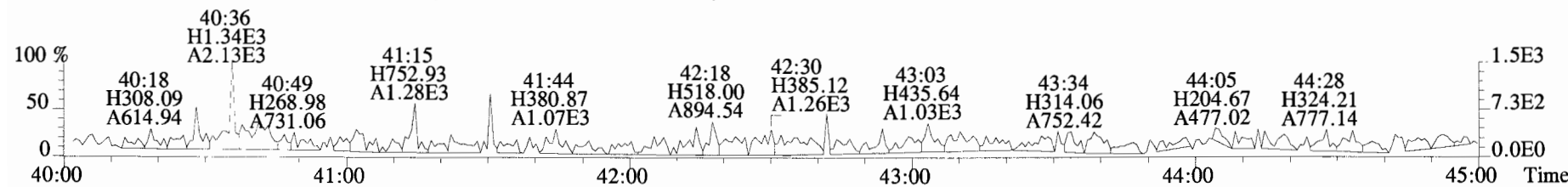
453.7831 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

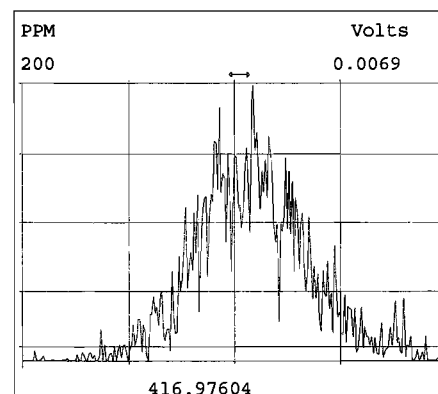
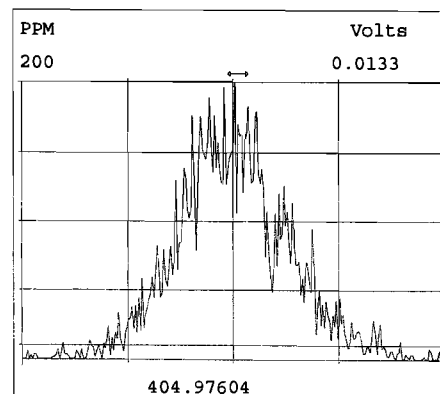
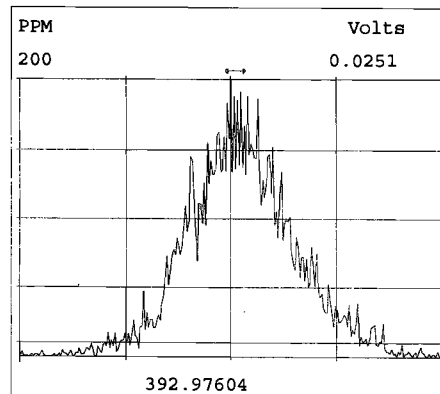
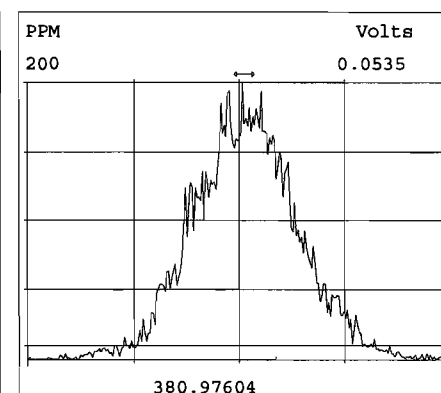
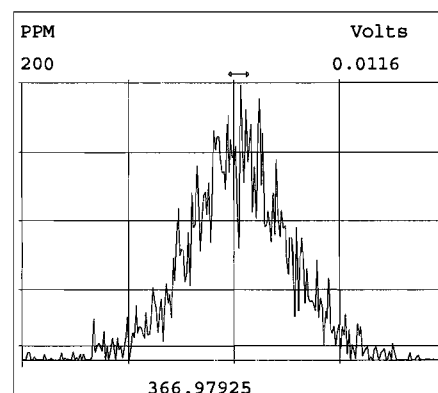
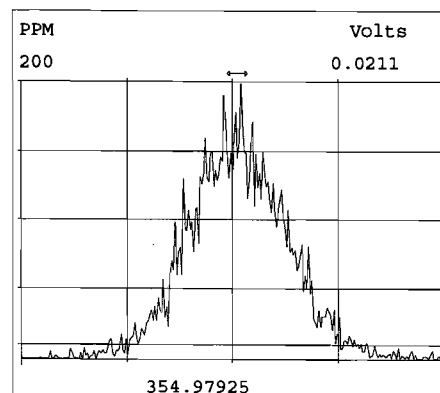
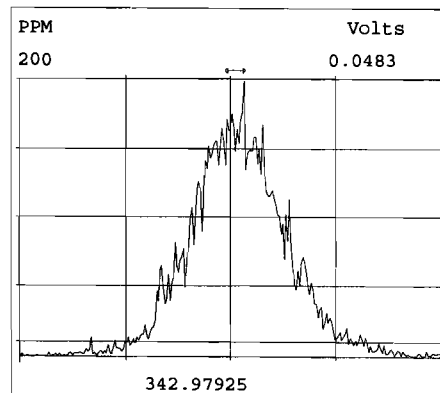
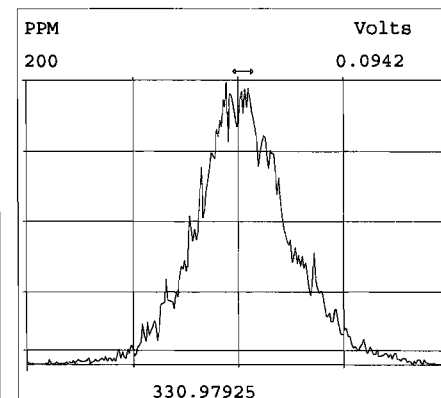
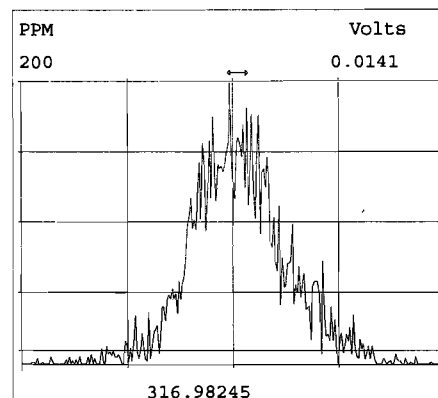
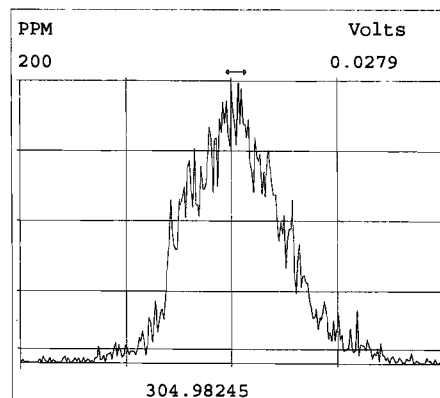
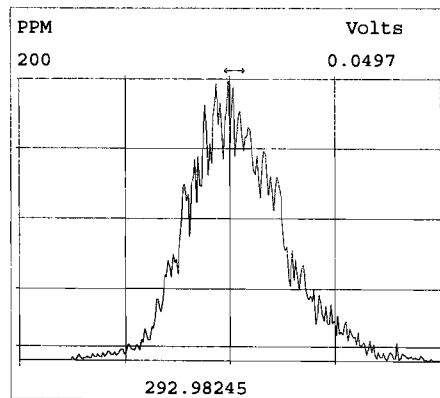


455.7801 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



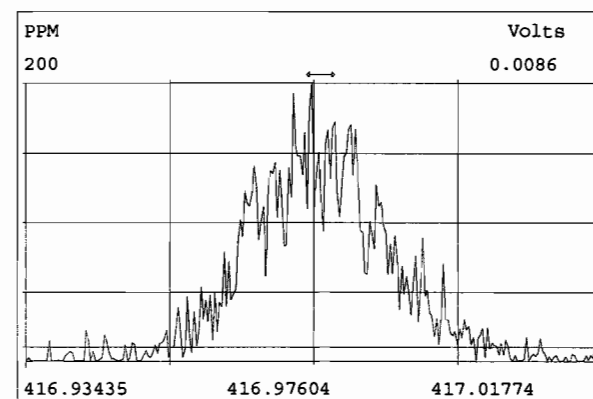
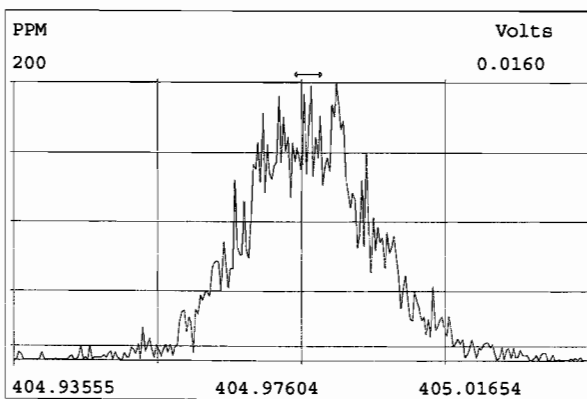
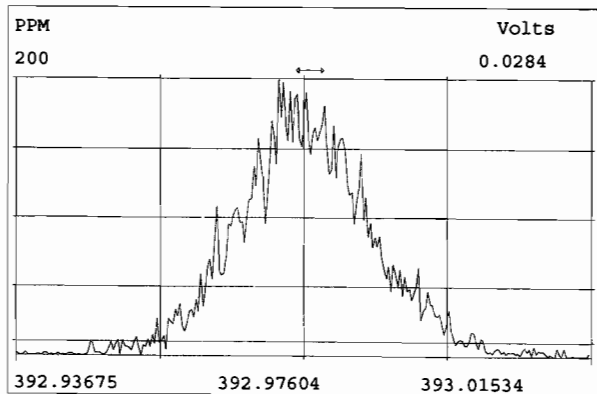
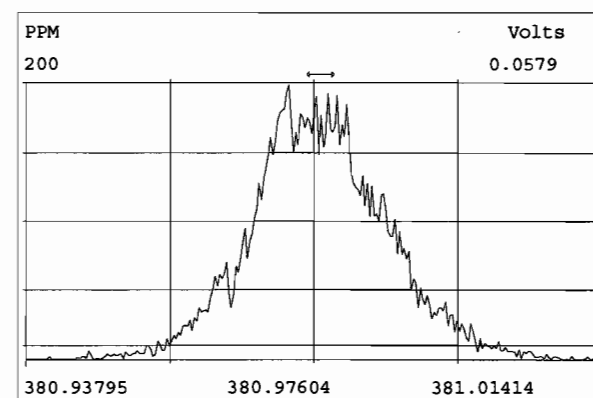
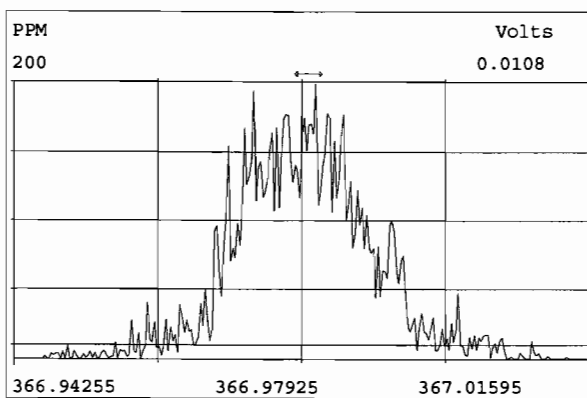
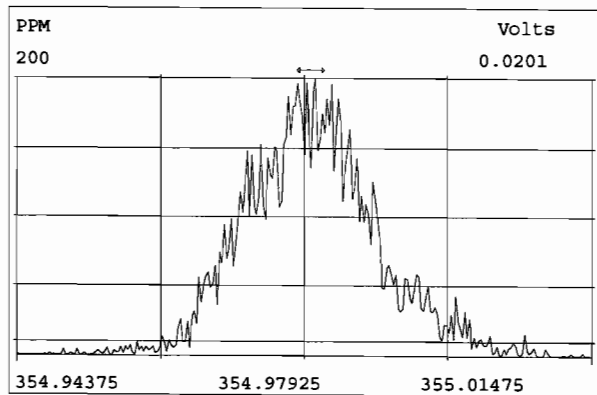
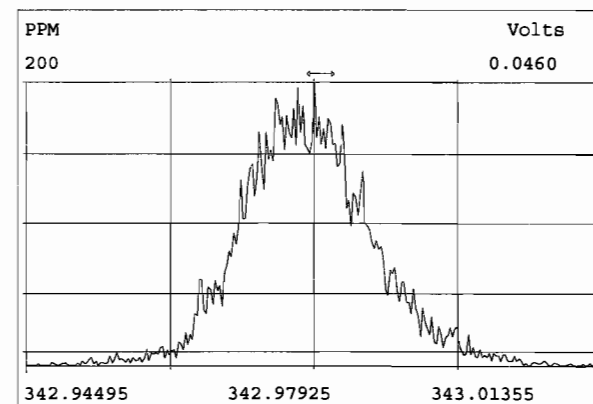
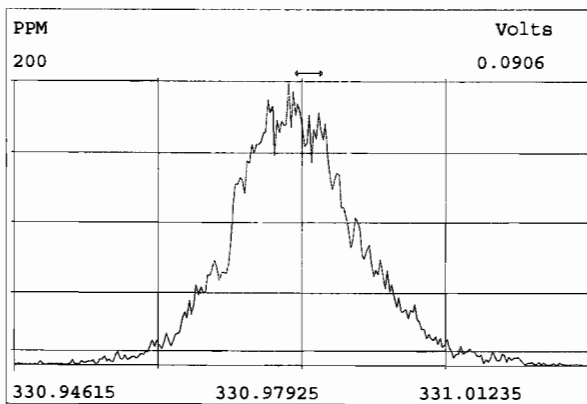
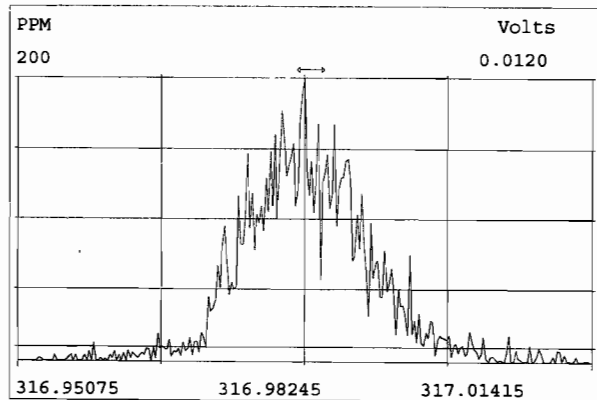
513.6775 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





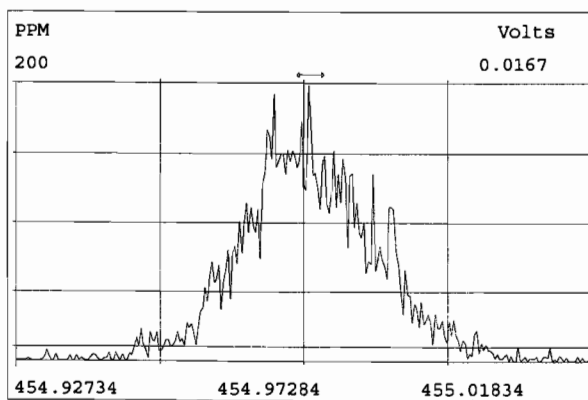
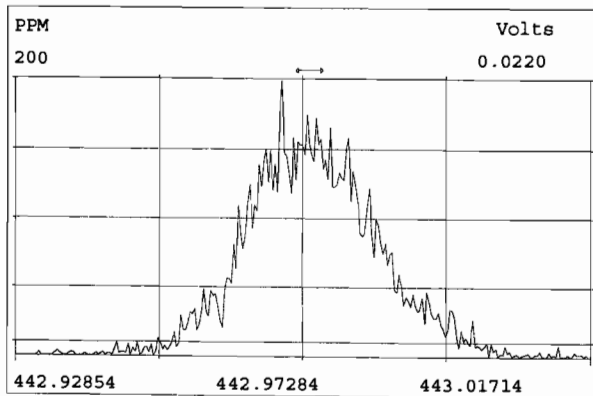
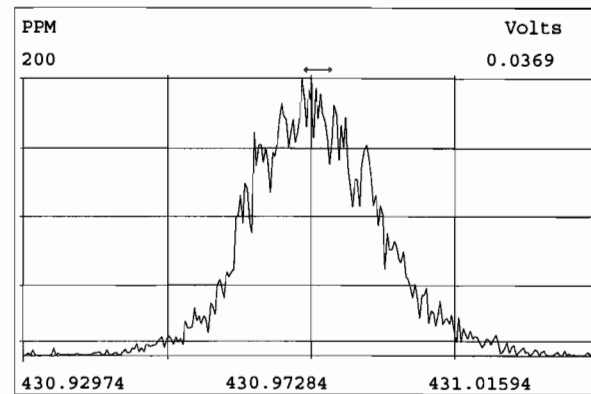
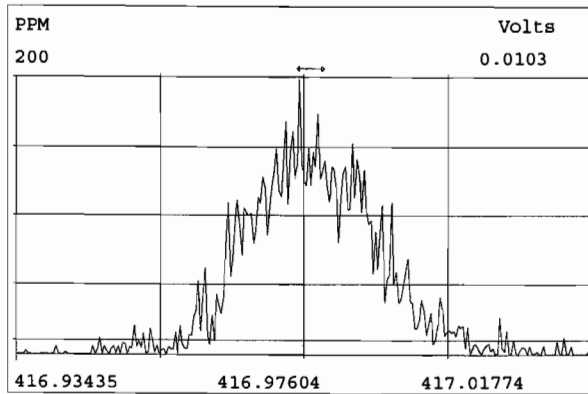
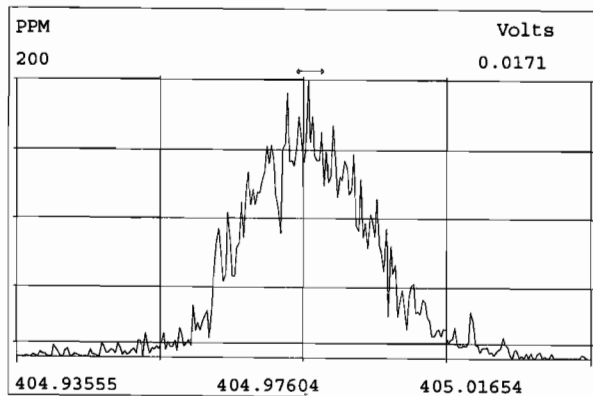
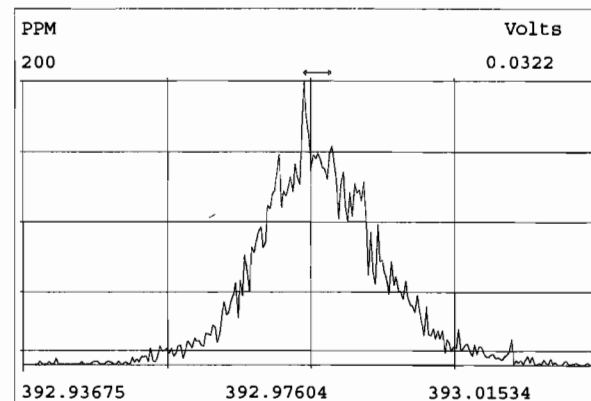
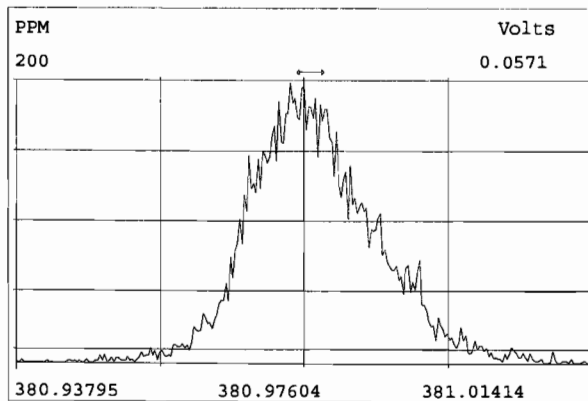
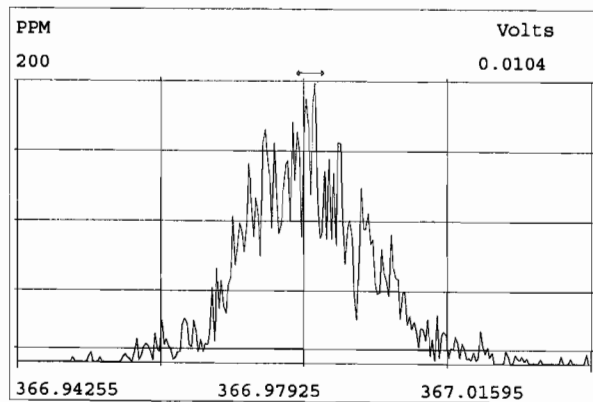
Peak Locate Examination:11-MAY-2019:04:53 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK

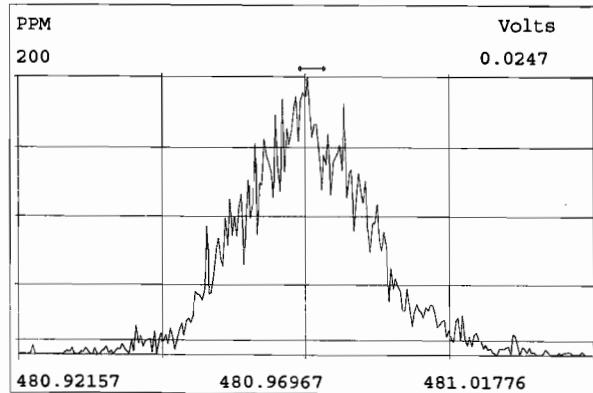
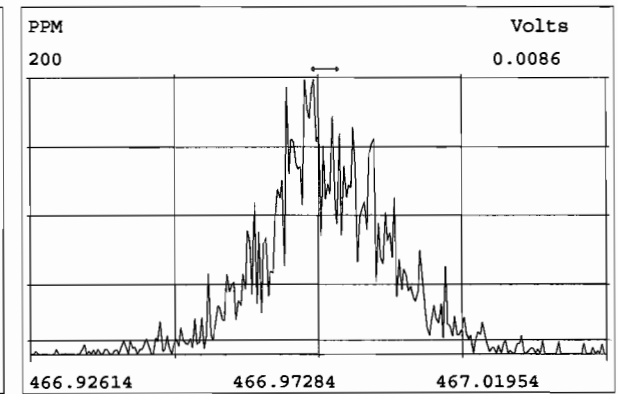
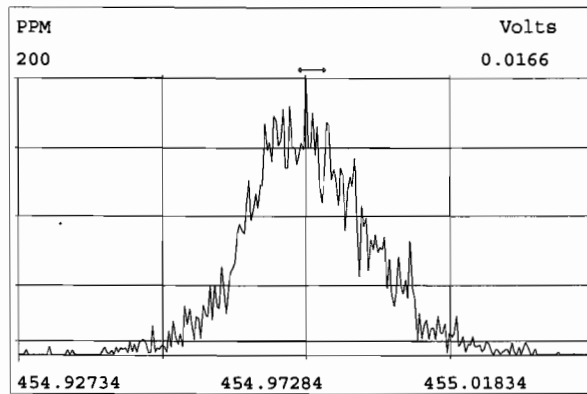
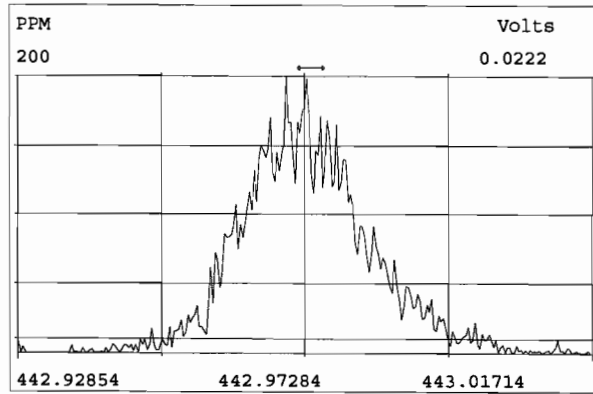
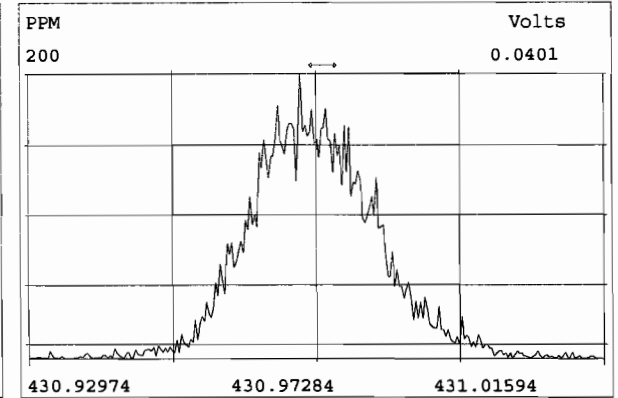
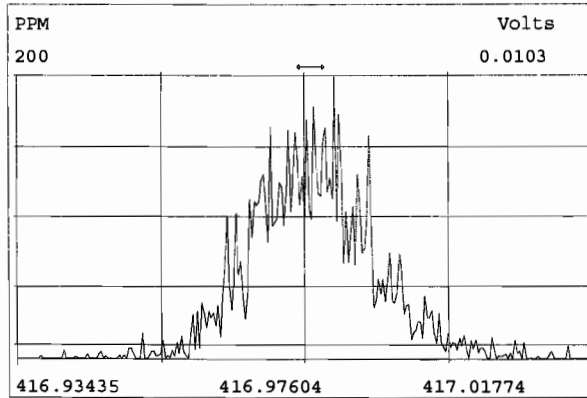
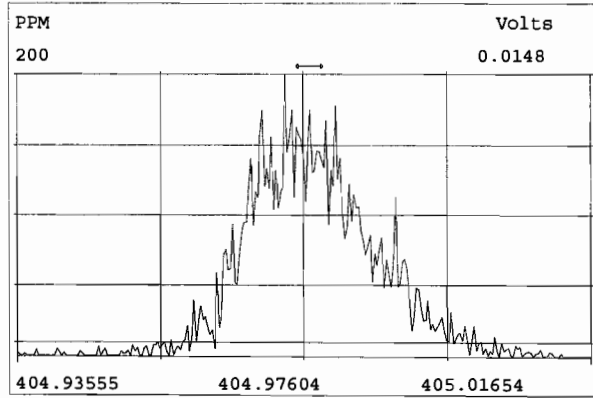


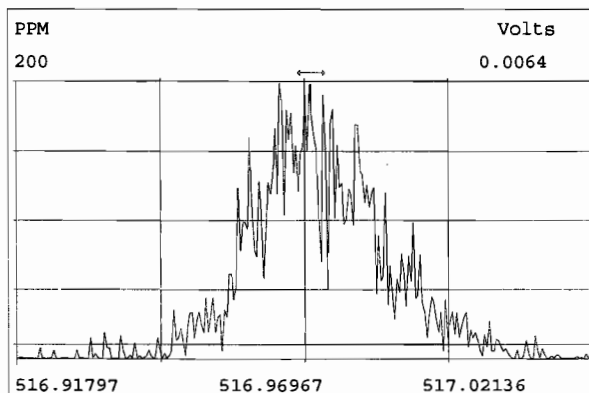
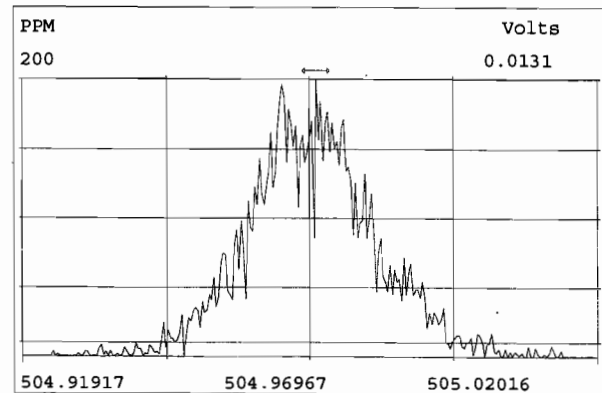
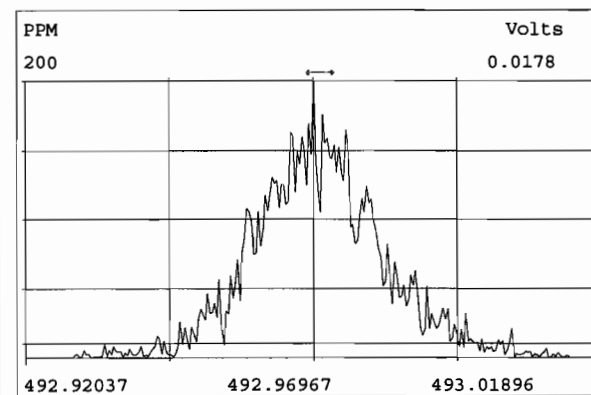
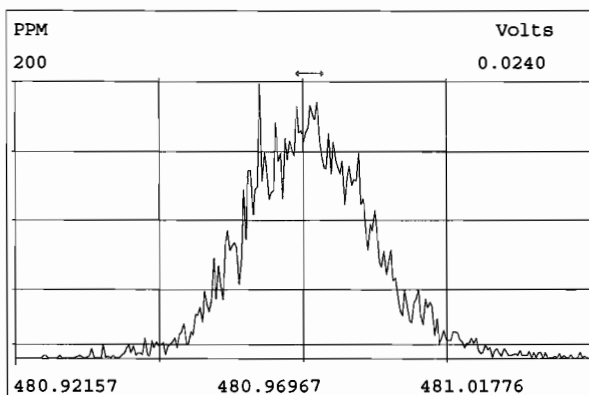
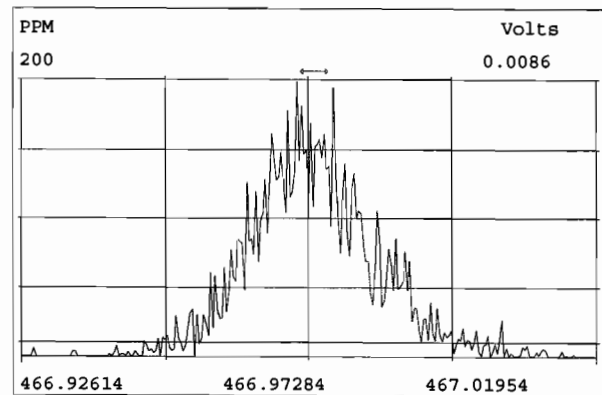
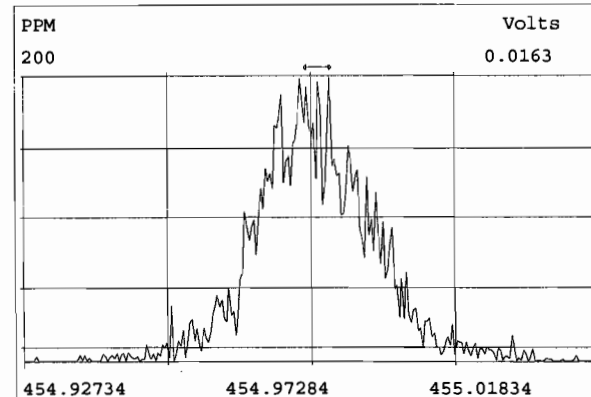
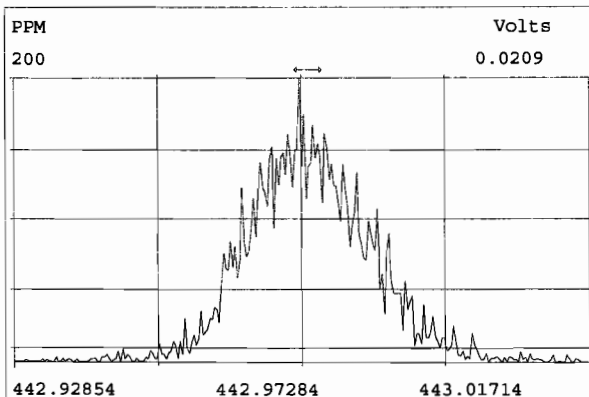
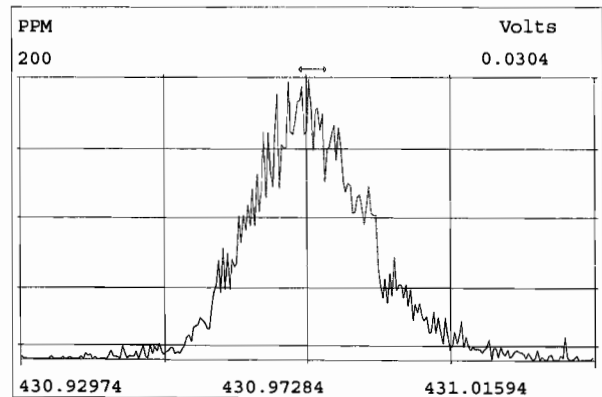
Peak Locate Examination:11-MAY-2019:04:54 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK



Experiment:OCDD_DB5 Function:4 Reference:PFK





Initial Calibration RRF Summary (ICAL) Vista Analytical Laboratory
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19 Inst. ID. VG-7

Data filename: 190530D1
Samp# 3 Samp# 4 Samp# 5 Samp# 6 Samp# 7 Samp# 8
100 100 100 100 100 100

Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
13C-1,2,3,4-TCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-2,3,7,8-TCDF	1.0212	4.27 %	1.07	1.04	1.03	1.05	0.98	0.96
2,3,7,8-TCDF	0.9476	9.58 %	1.12	0.93	0.88	0.87	0.97	0.92

DB CT
5/30/19 05/31/19

Filename: 190530D1 S: 3 Acquired: 30-MAY-19 12:05:38
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-1 1613 CS0 19C2201

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.38e+07	0.80 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.47e+07	0.81 y	18:05	-	1.07
2,3,7,8-TCDF	0.250	4.11e+04	0.87 y	18:06	-	1.12

DB
5/30/19

Filename: 190530D1 S: 4 Acquired: 30-MAY-19 12:37:29
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-2 1613 CS1 19C2202

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.24e+07	0.82 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.30e+07	0.78 y	18:05	-	1.04
2,3,7,8-TCDF	0.500	6.06e+04	0.67 y	18:05	-	0.93

DB
5/30/19

Filename: 190530D1 S: 5 Acquired: 30-MAY-19 13:09:20
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-3 1613 CS2 19C2203

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.21e+07	0.82 y	15:48	-	1.00
13C-2,3,7,8-TCDF	100	1.24e+07	0.80 y	18:04	-	1.03
2,3,7,8-TCDF	2.00	2.18e+05	0.74 y	18:05	-	0.88

DB
5/30/19

Filename: 190530D1 S: 6 Acquired: 30-MAY-19 13:41:11
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-4 1613 CS3 19C2204

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.28e+07	0.81 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.34e+07	0.80 y	18:05	-	1.05
2,3,7,8-TCDF	10.0	1.17e+06	0.73 y	18:06	-	0.87

DB
5/30/19

Filename: 190530D1 S: 7 Acquired: 30-MAY-19 14:13:01
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-5 1613 CS4 19C2205

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.30e+07	0.81 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.28e+07	0.80 y	18:05	-	0.98
2,3,7,8-TCDF	40.0	4.95e+06	0.77 y	18:06	-	0.97

DB
5/30/19

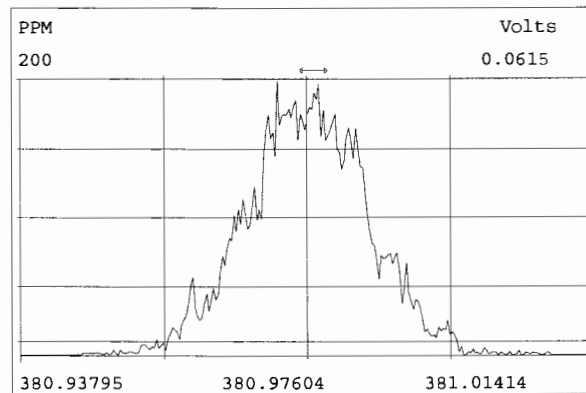
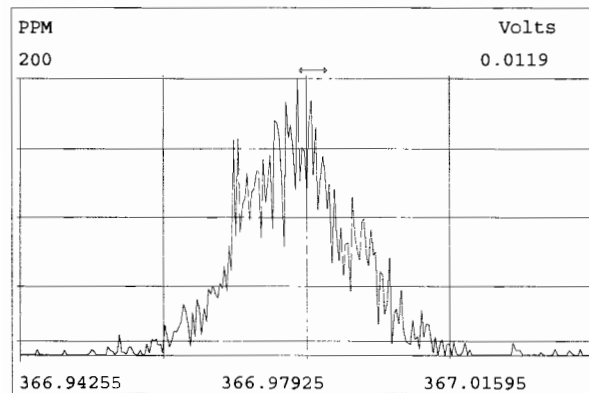
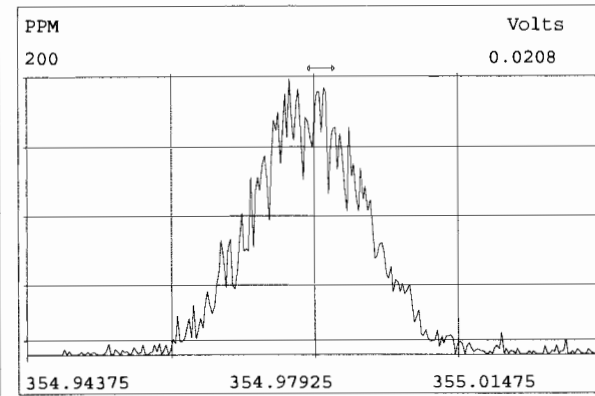
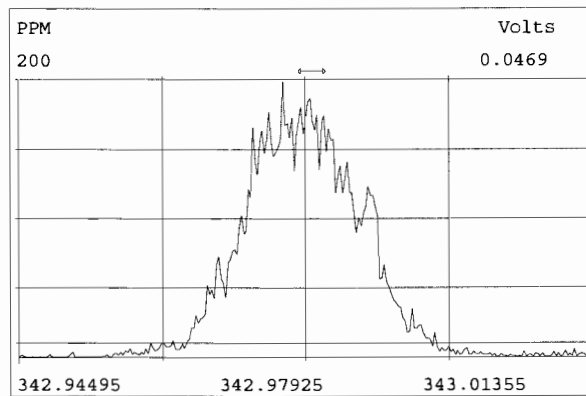
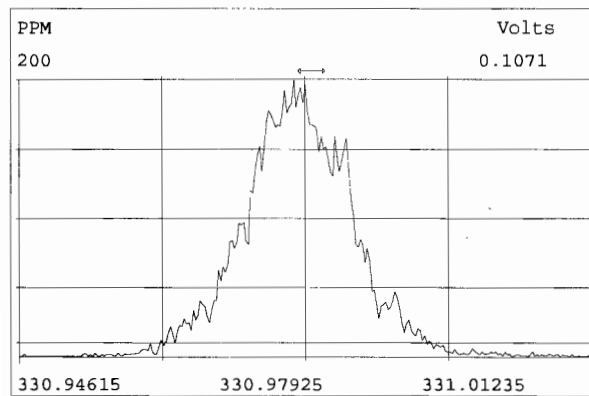
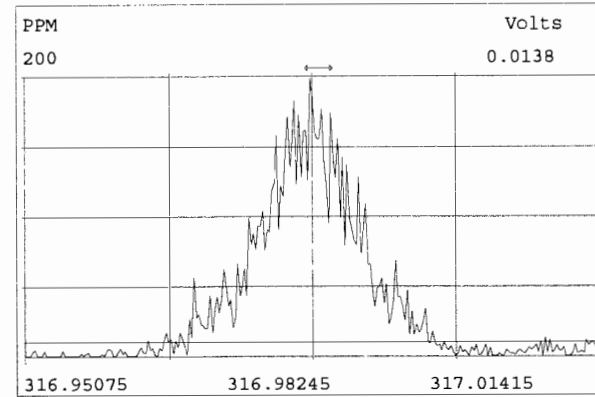
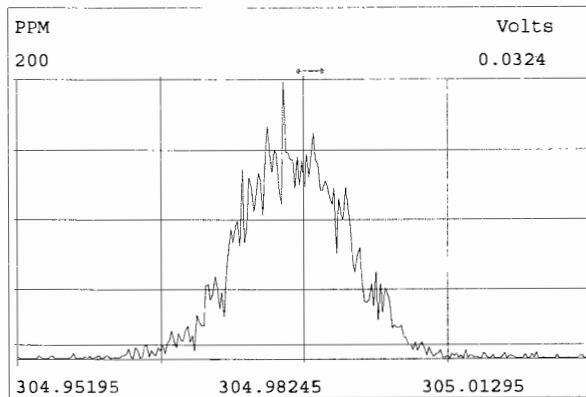
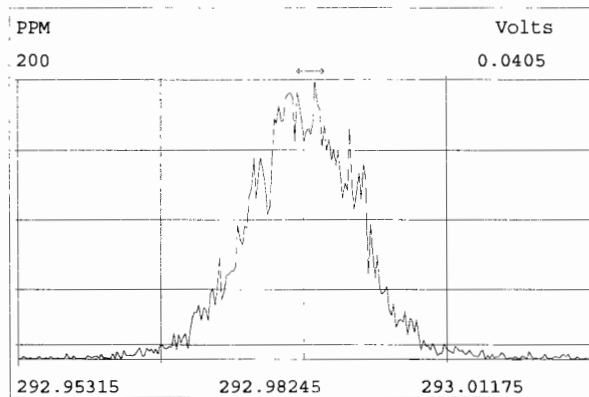
Filename: 190530D1 S: 8 Acquired: 30-MAY-19 14:44:52
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-6 1613 CS5 19C2206

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.29e+07	0.80 y	15:48	-	1.00
13C-2,3,7,8-TCDF	100	1.24e+07	0.80 y	18:05	-	0.96
2,3,7,8-TCDF	300	3.42e+07	0.74 y	18:06	-	0.92

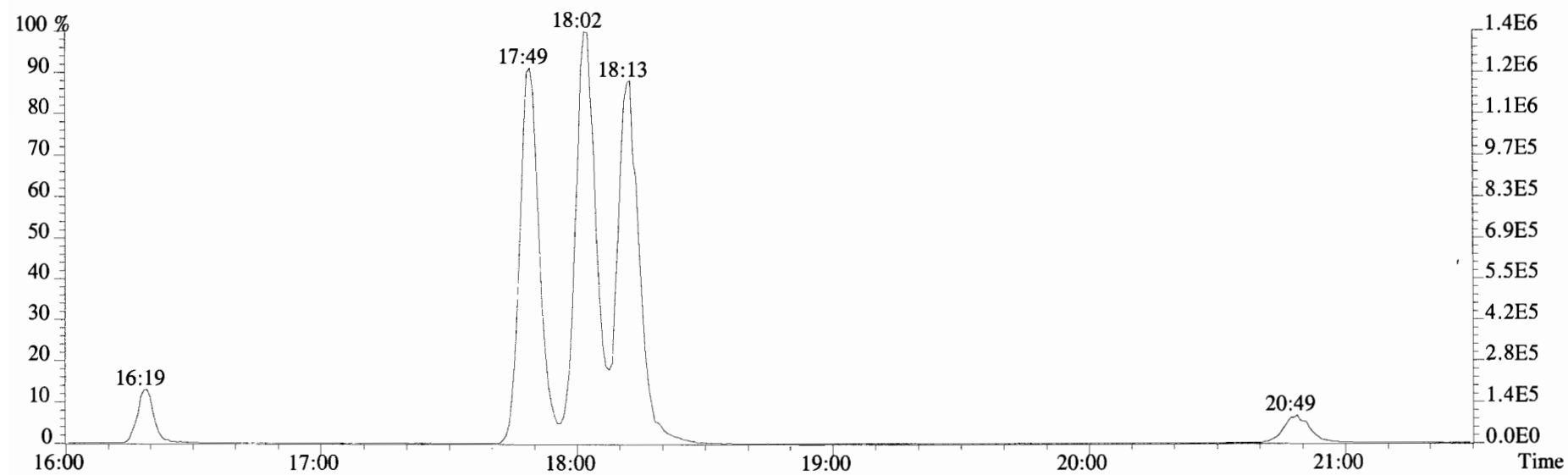
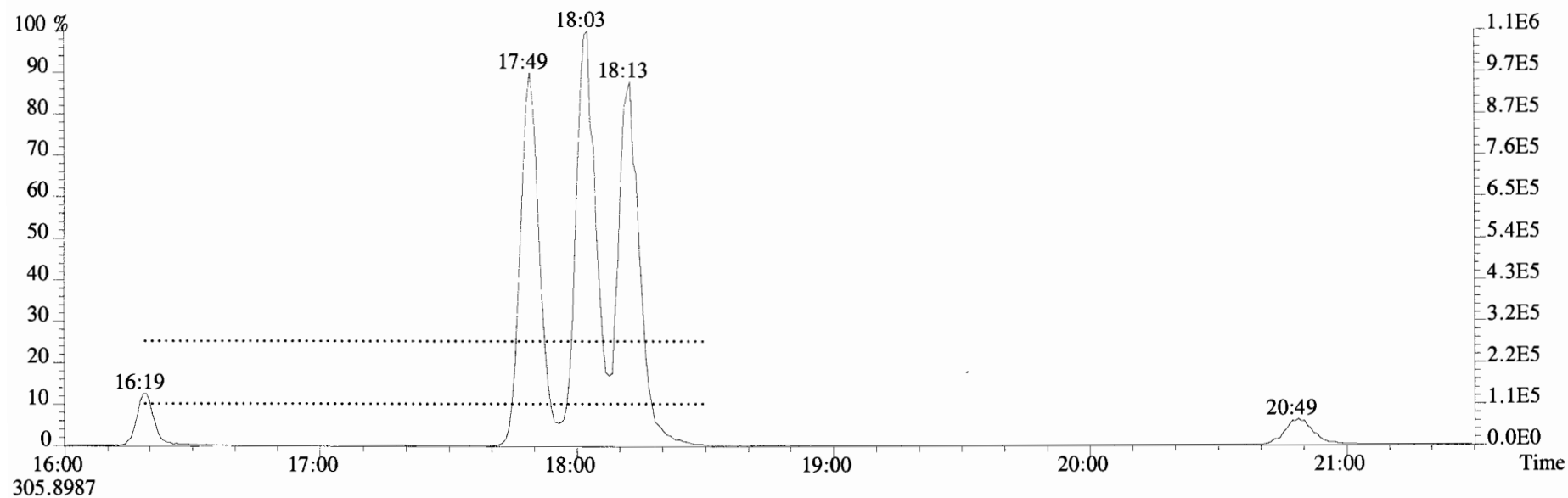
DB
5/30/19

Vista Analytical Laboratory - Injection Log Run file: 190530D1 Instrument ID: VG-7 GC Column ID: DB-225

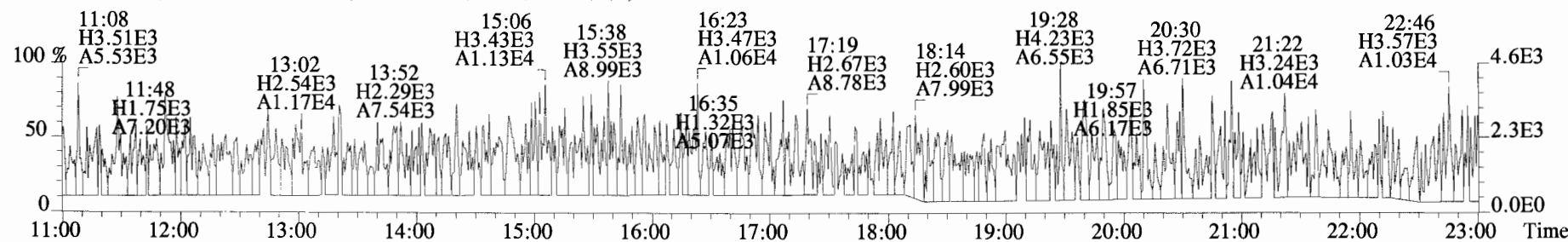
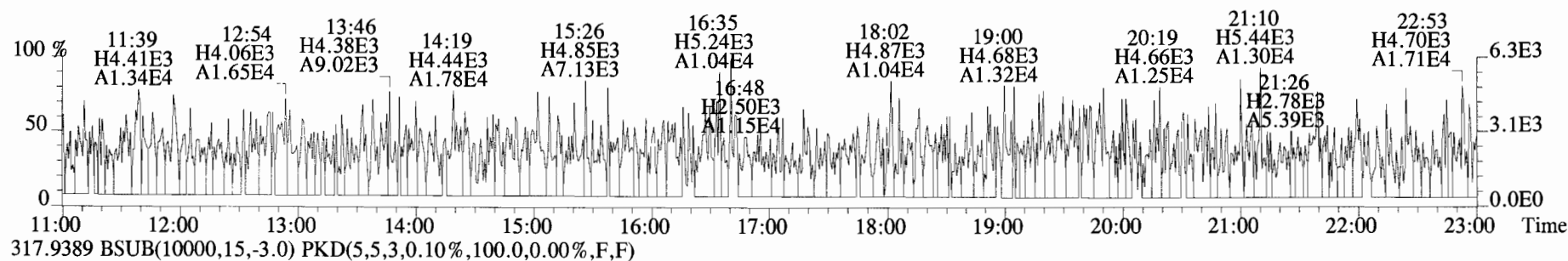
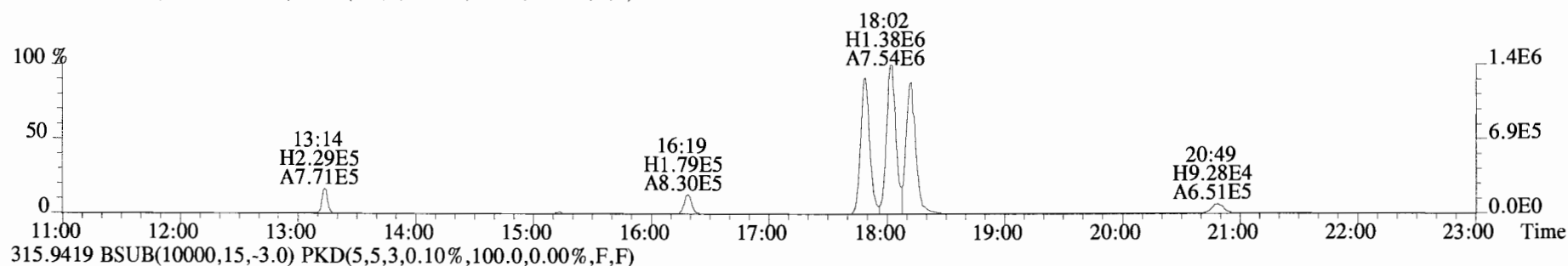
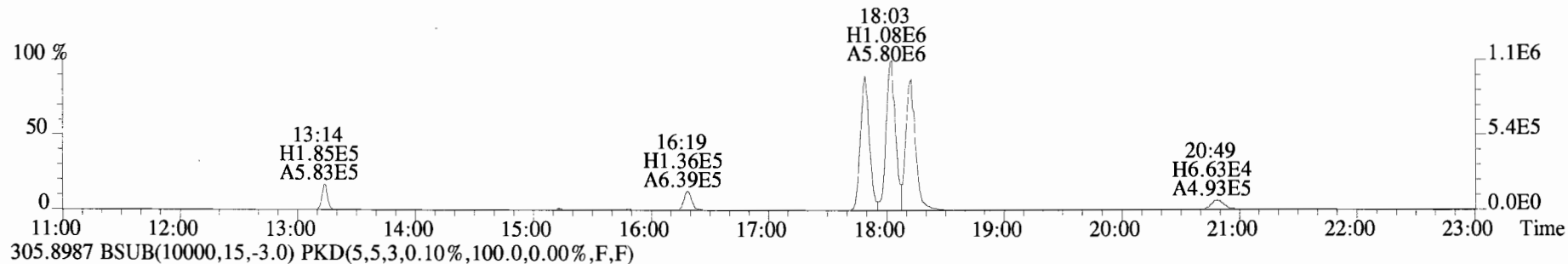
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190530D1	1	CP190530D1-1	DB	30-MAY-19	11:02:08	ST190530D1-4	NA
190530D1	2	SOLVENT BLANK	DB	30-MAY-19	11:33:52	ST190530D1-4	NA
190530D1	3	ST190530D1-1	DB	30-MAY-19	12:05:38	ST190530D1-4	NA
190530D1	4	ST190530D1-2	DB	30-MAY-19	12:37:29	ST190530D1-4	NA
190530D1	5	ST190530D1-3	DB	30-MAY-19	13:09:20	ST190530D1-4	NA
190530D1	6	ST190530D1-4	DB	30-MAY-19	13:41:11	ST190530D1-4	NA
190530D1	7	ST190530D1-5	DB	30-MAY-19	14:13:01	ST190530D1-4	NA
190530D1	8	ST190530D1-6	DB	30-MAY-19	14:44:52	ST190530D1-4	NA
190530D1	9	SOLVENT BLANK	DB	30-MAY-19	15:16:42	ST190530D1-4	NA
190530D1	10	SS190528D1-1	DB	30-MAY-19	15:48:32	ST190530D1-4	NA
190530D1	11	SOLVENT BLANK	DB	30-MAY-19	16:20:23	ST190530D1-4	NA
190530D1	12	1901028-05RE1	DB	30-MAY-19	16:52:12	ST190530D1-4	NA
190530D1	13	1901028-07RE1	DB	30-MAY-19	17:24:02	ST190530D1-4	NA
190530D1	14	1901028-08RE1	DB	30-MAY-19	17:55:52	ST190530D1-4	NA
190530D1	15	1901028-09RE1	DB	30-MAY-19	18:27:41	ST190530D1-4	NA



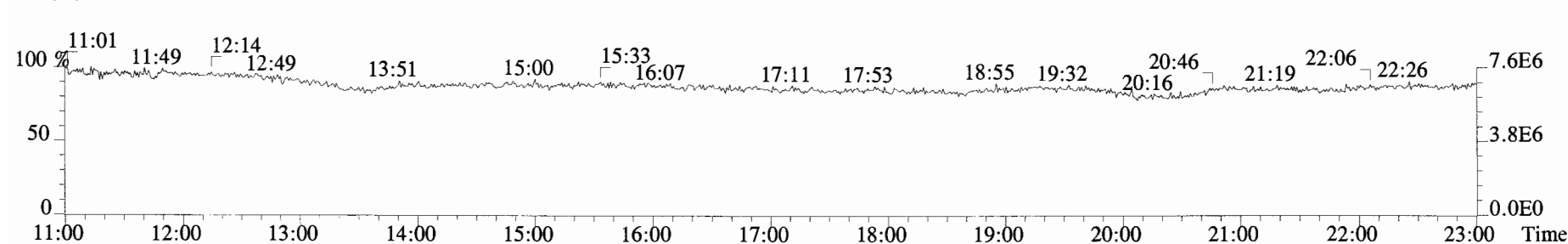
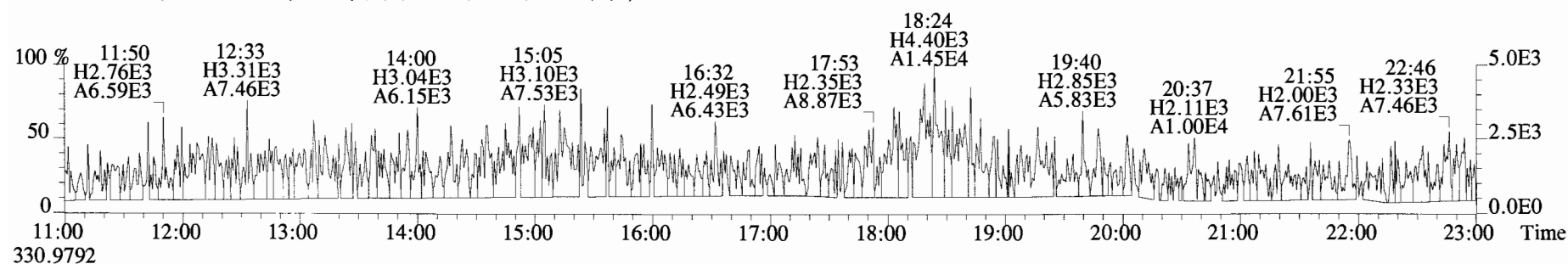
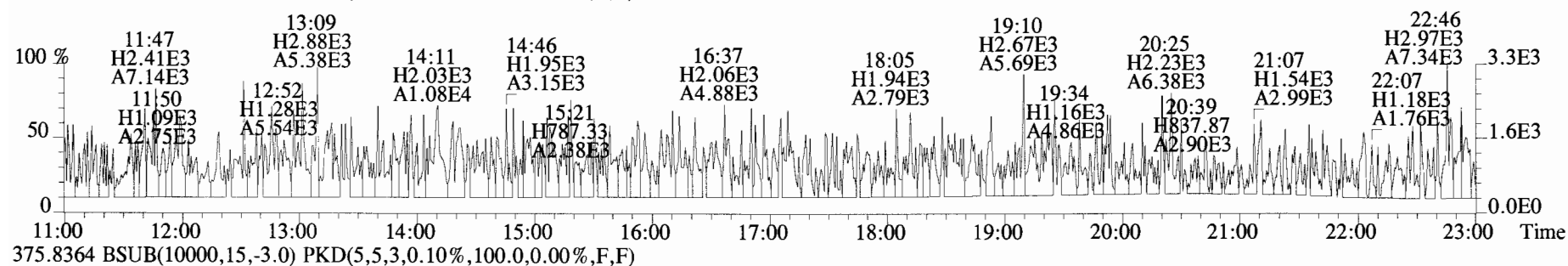
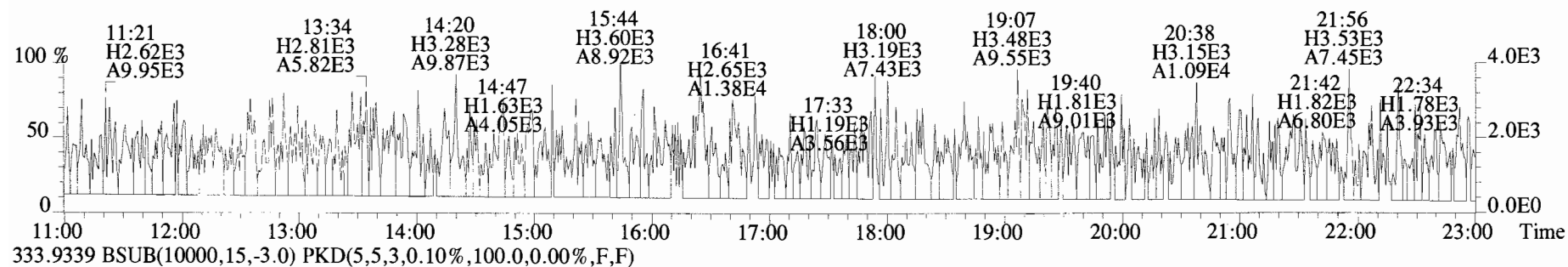
File:190530D1 #1-1559 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016



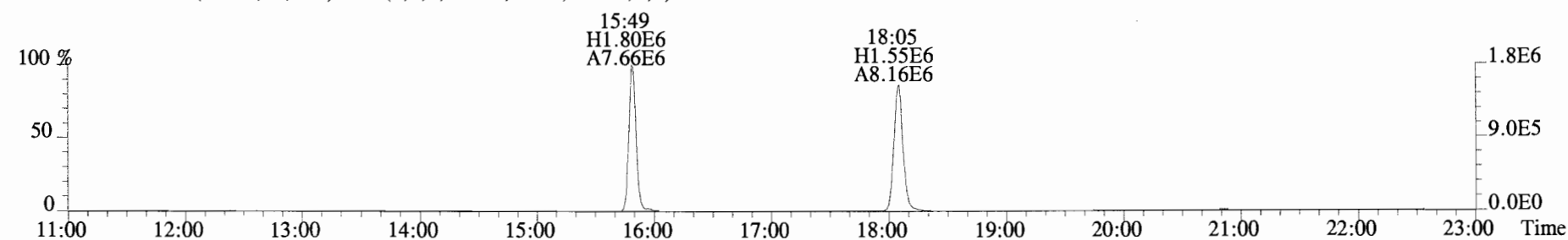
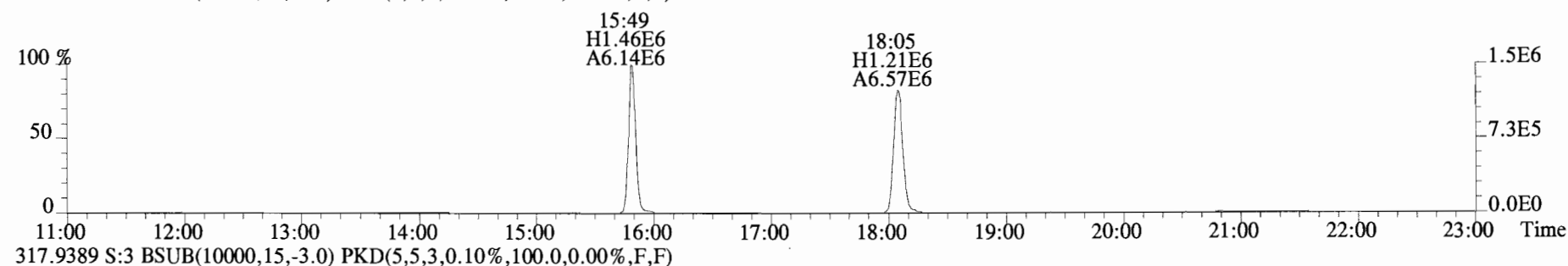
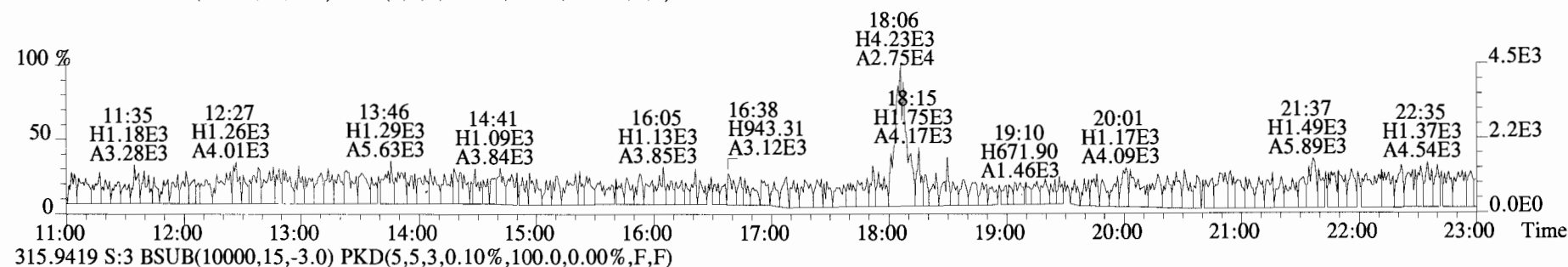
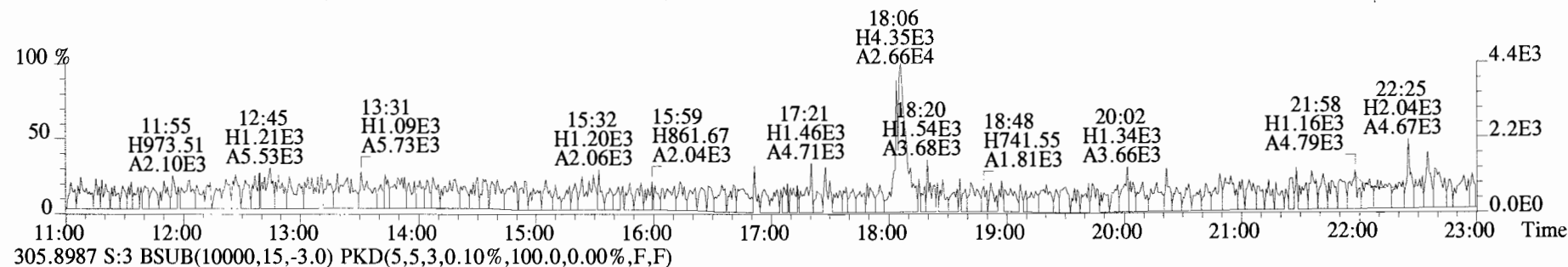
File:190530D1 #1-1682 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



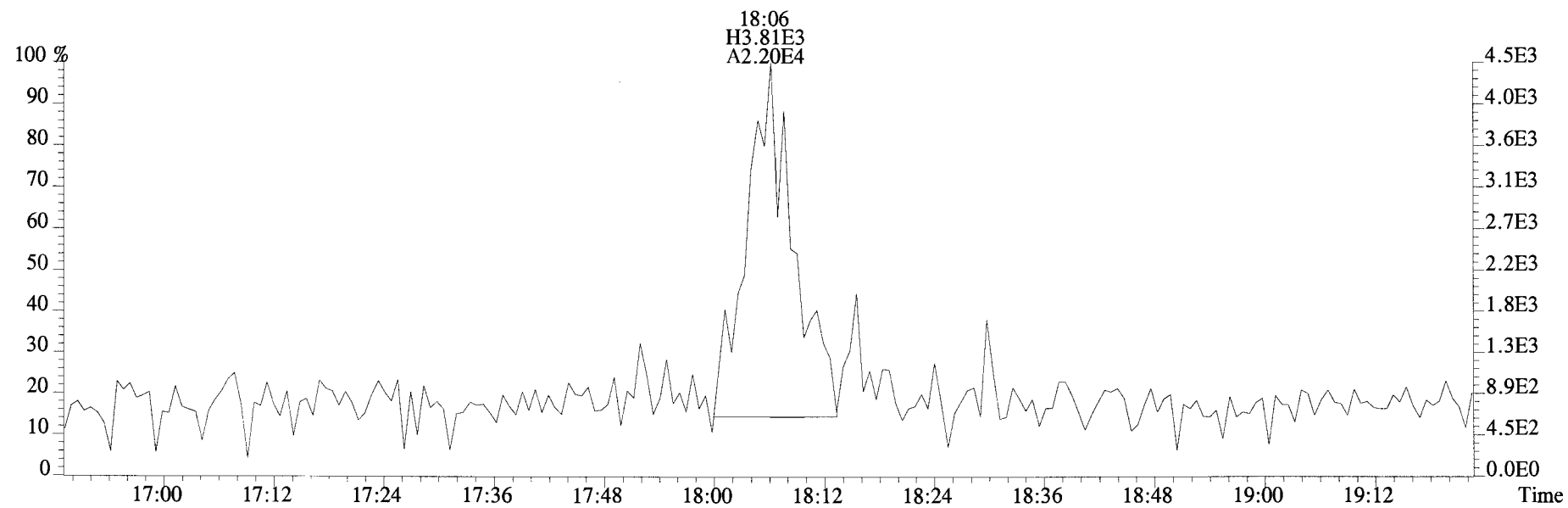
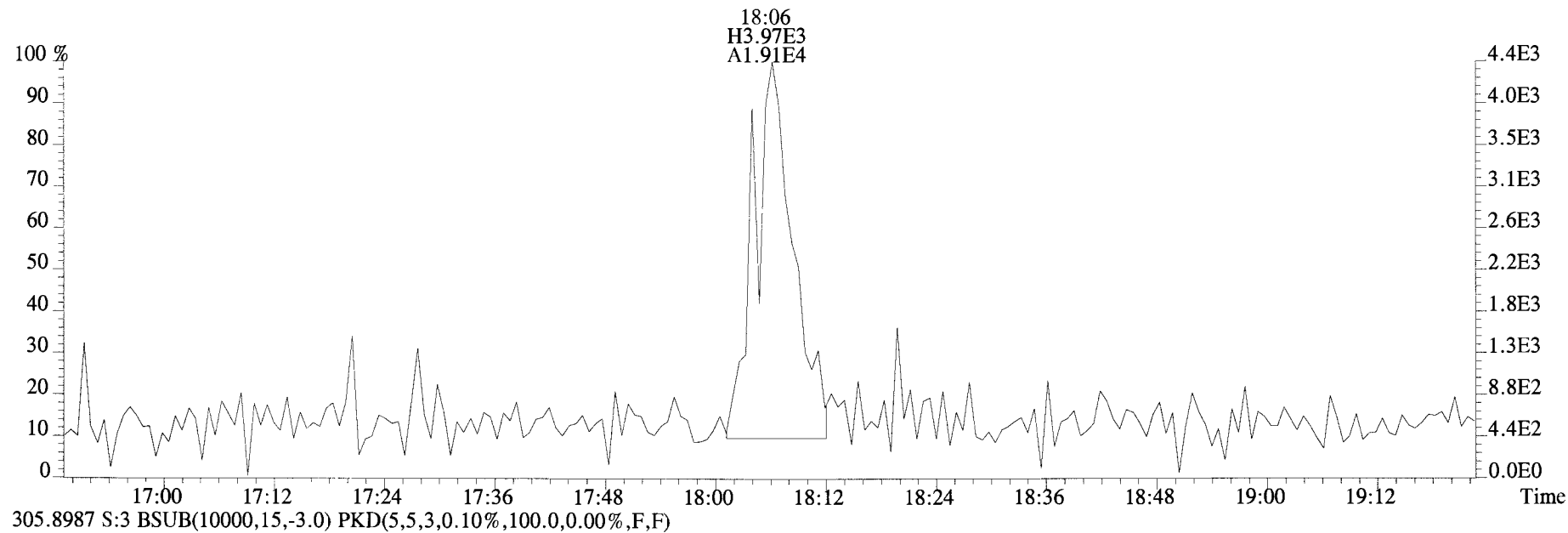
File:190530D1 #1-1682 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



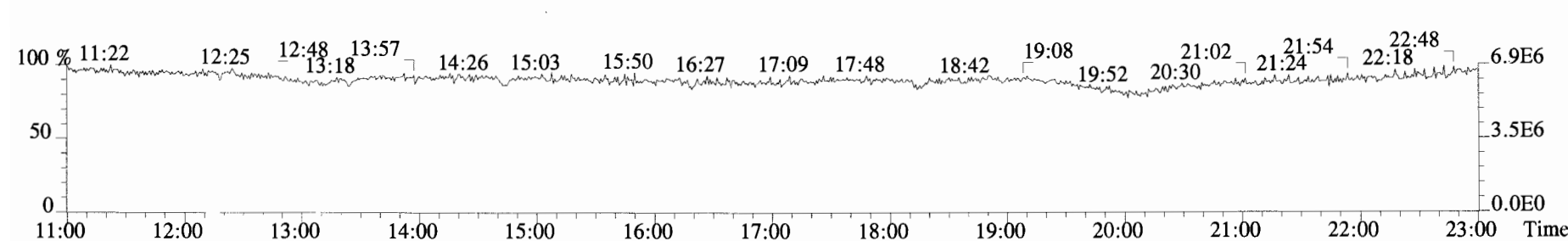
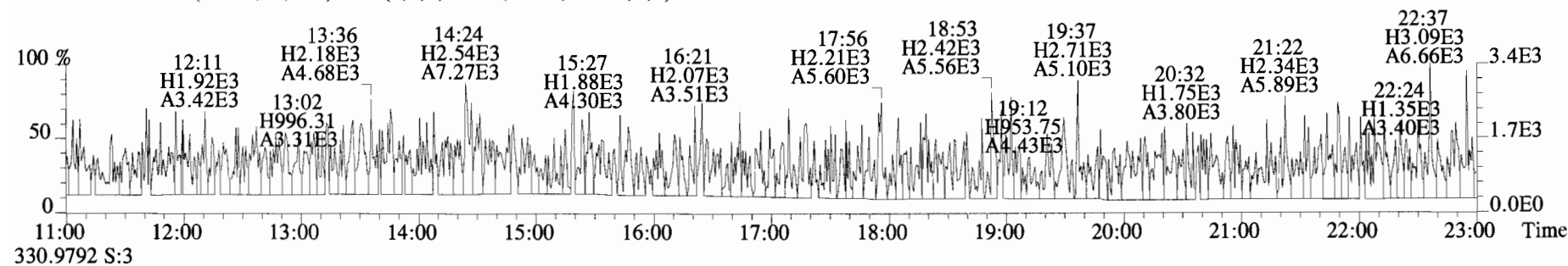
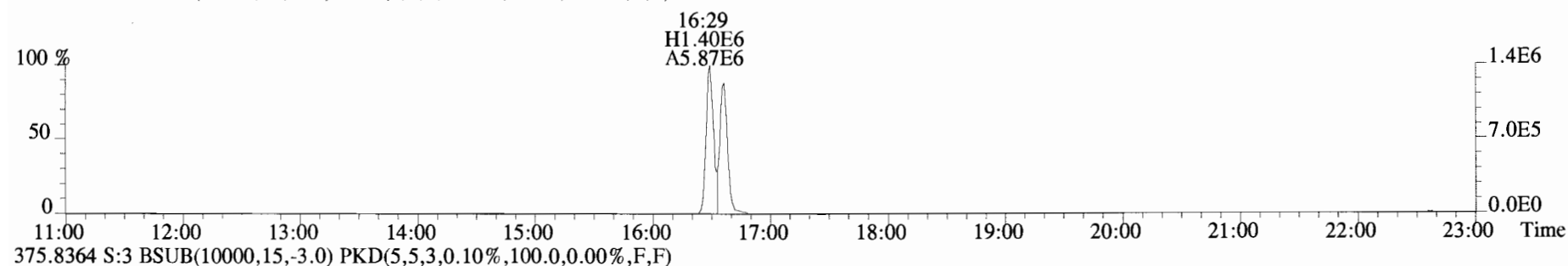
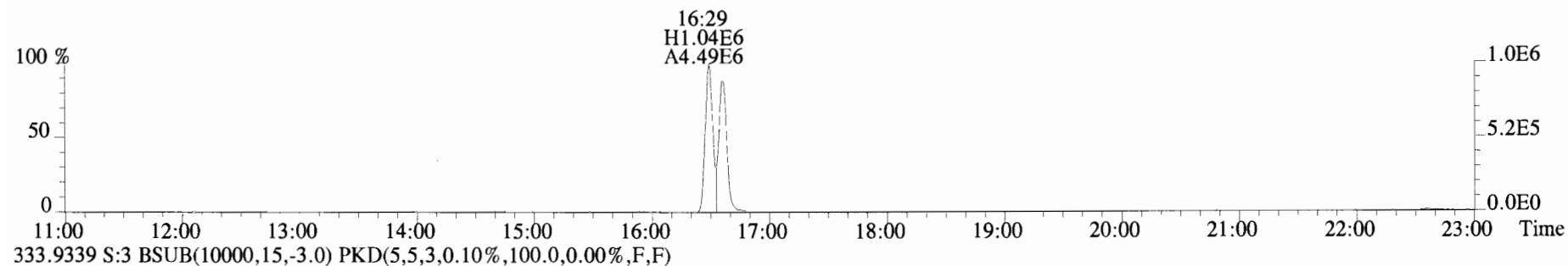
File:190530D1 #1-1682 Acq:30-MAY-2019 12:05:38 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



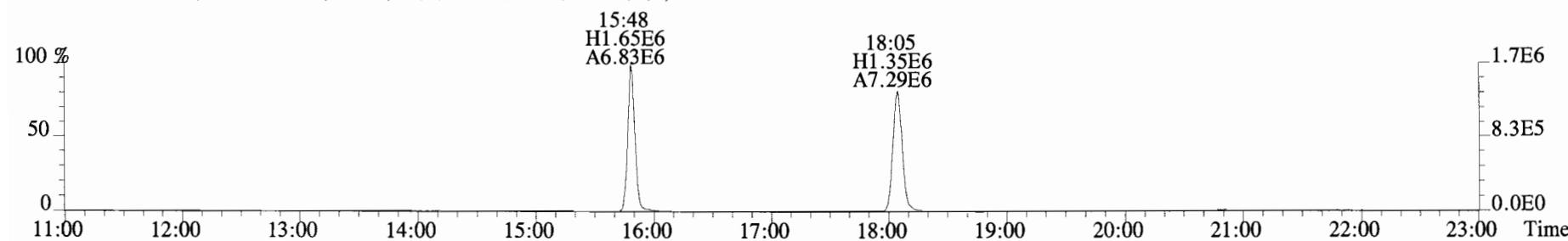
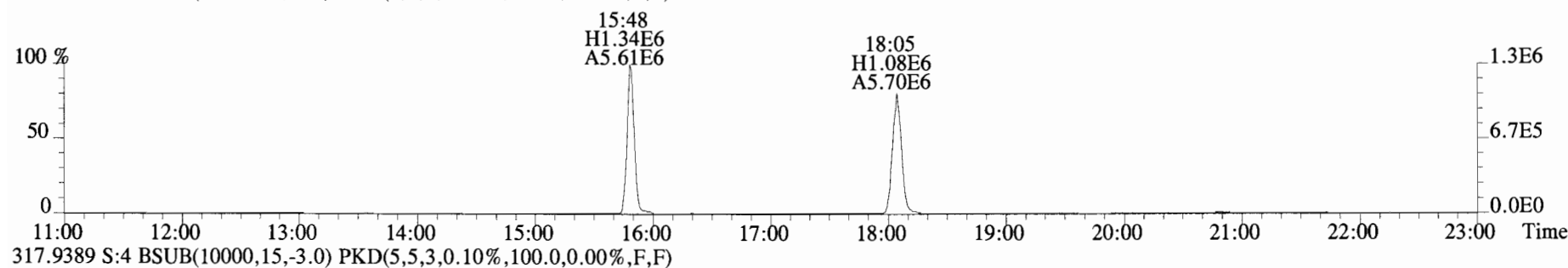
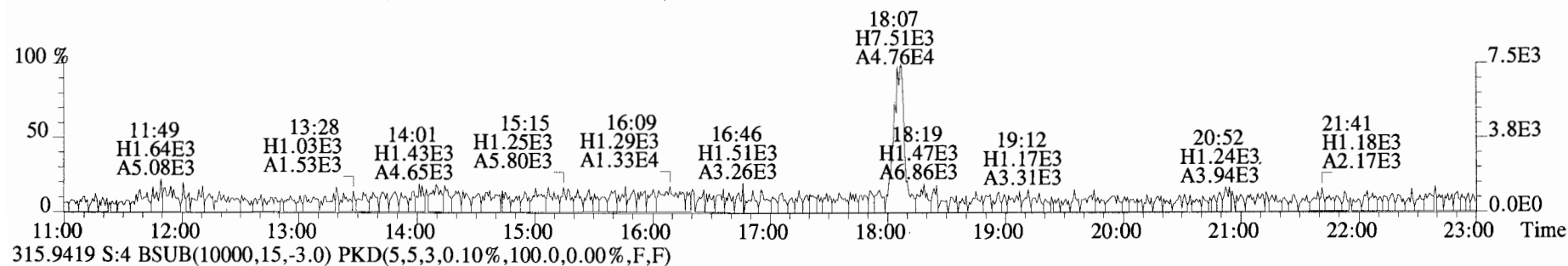
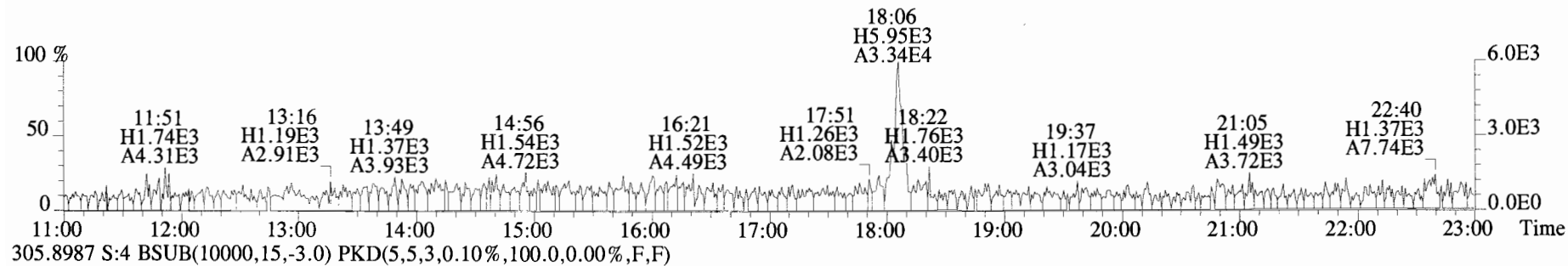
File:190530D1 #1-1682 Acq:30-MAY-2019 12:05:38 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



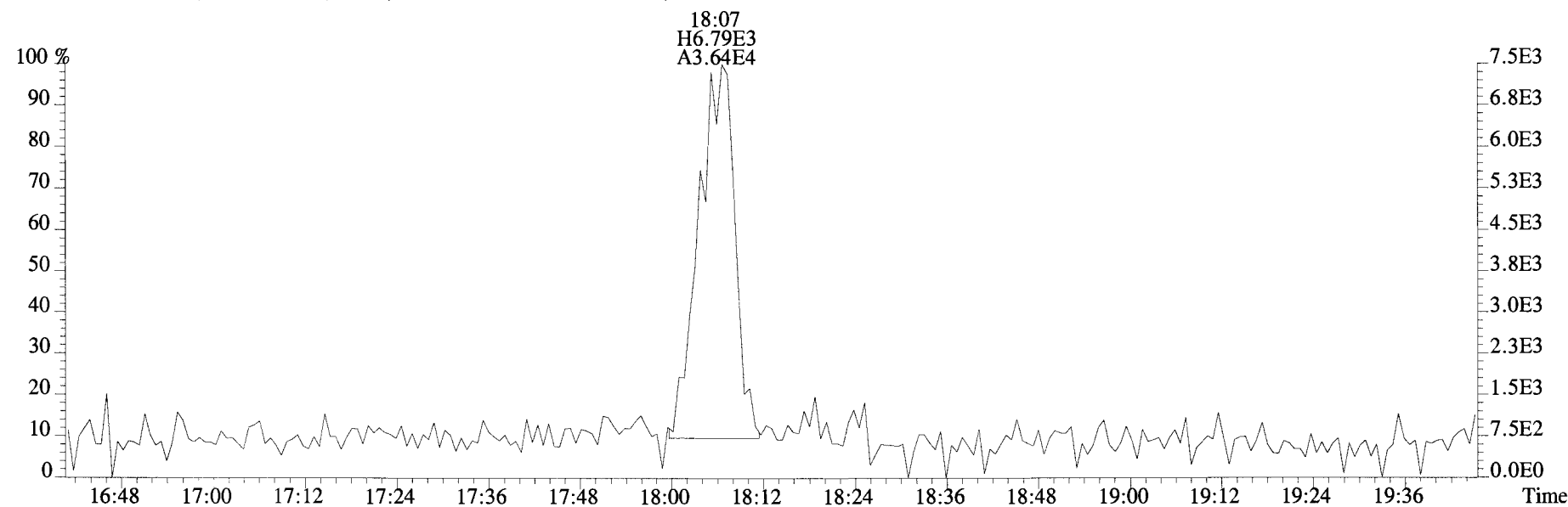
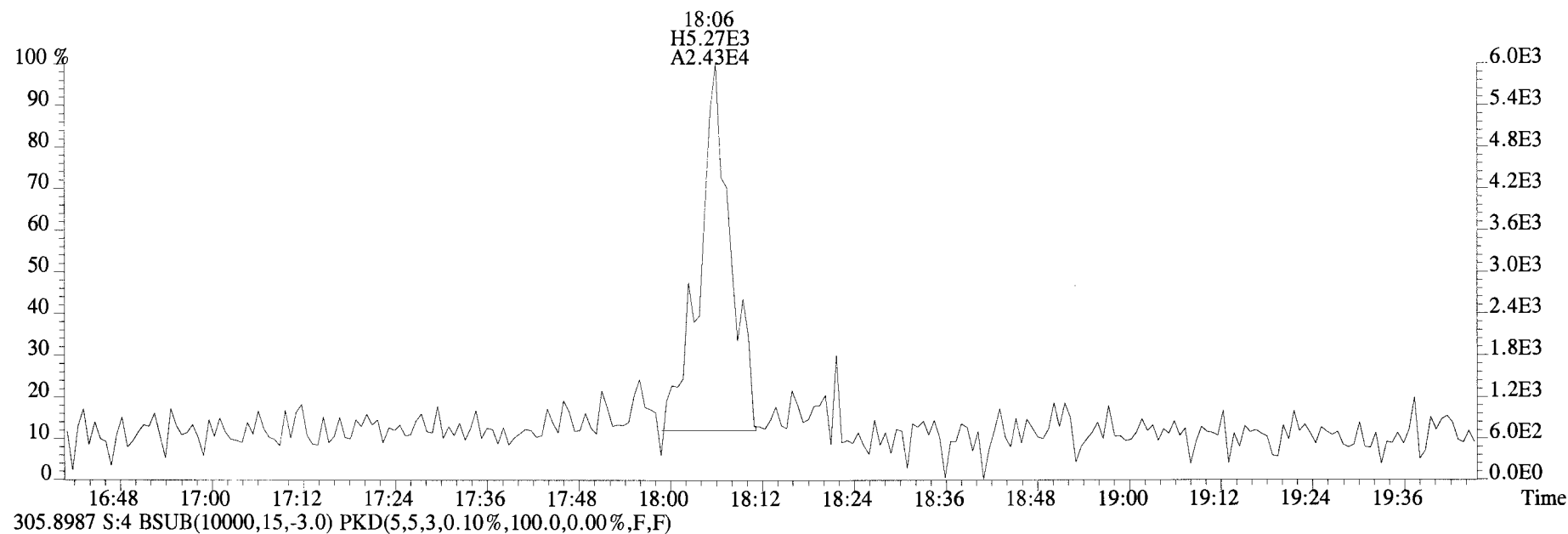
File:190530D1 #1-1682 Acq:30-MAY-2019 12:05:38 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



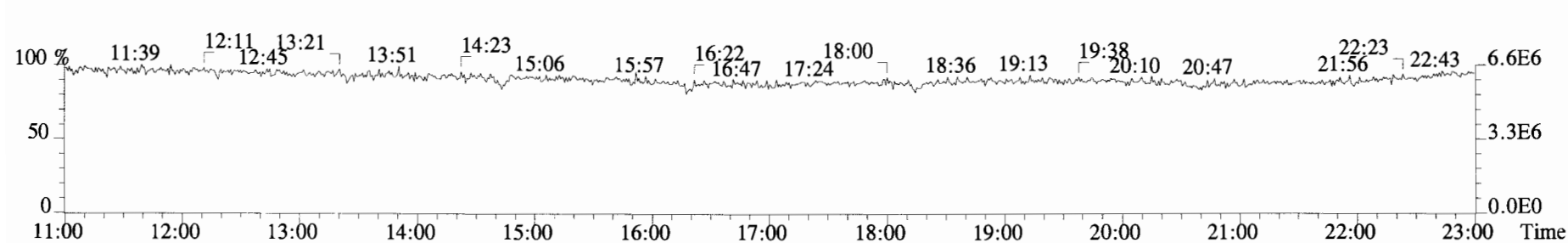
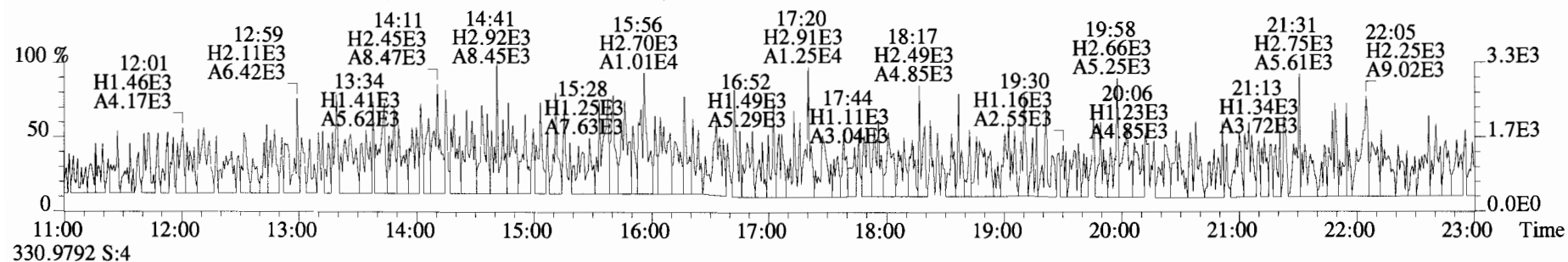
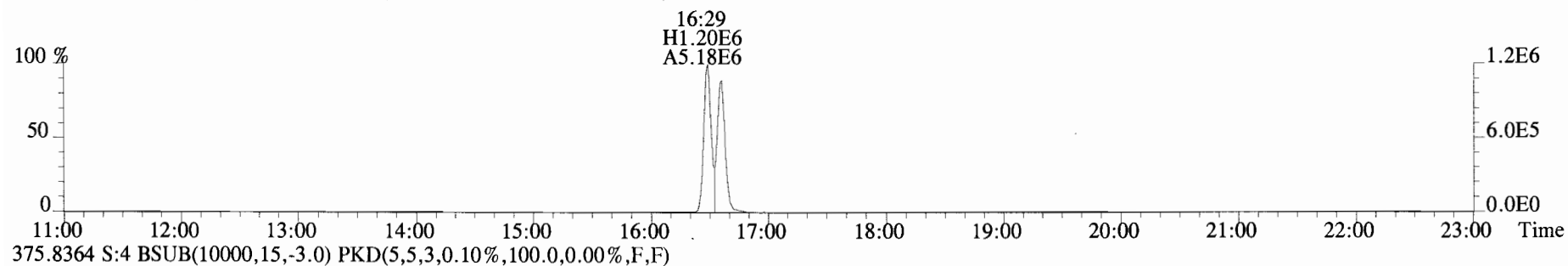
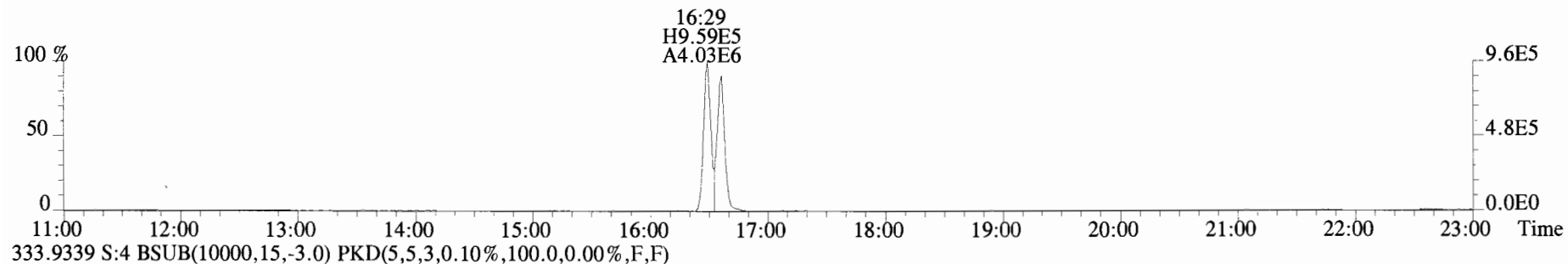
File:190530D1 #1-1683 Acq:30-MAY-2019 12:37:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text: Vista Analytical Laboratory VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
 303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



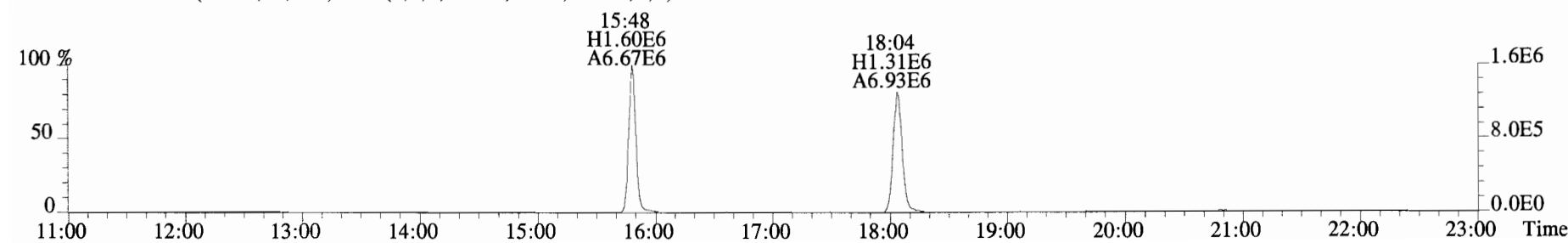
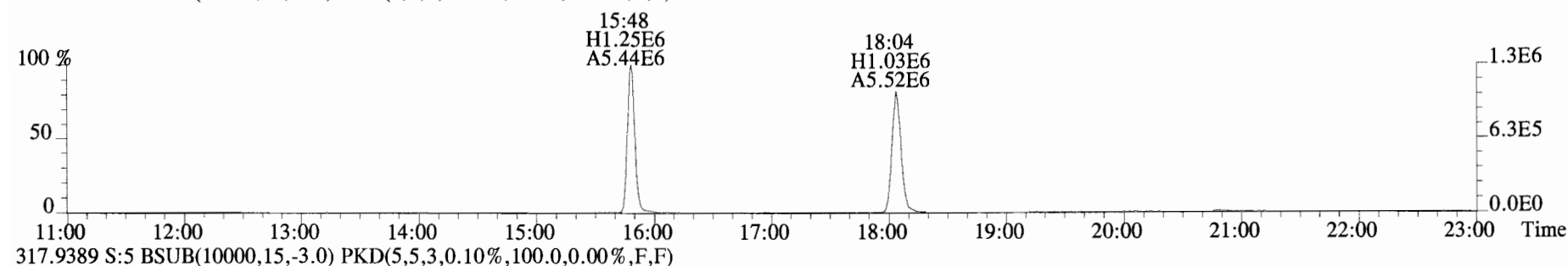
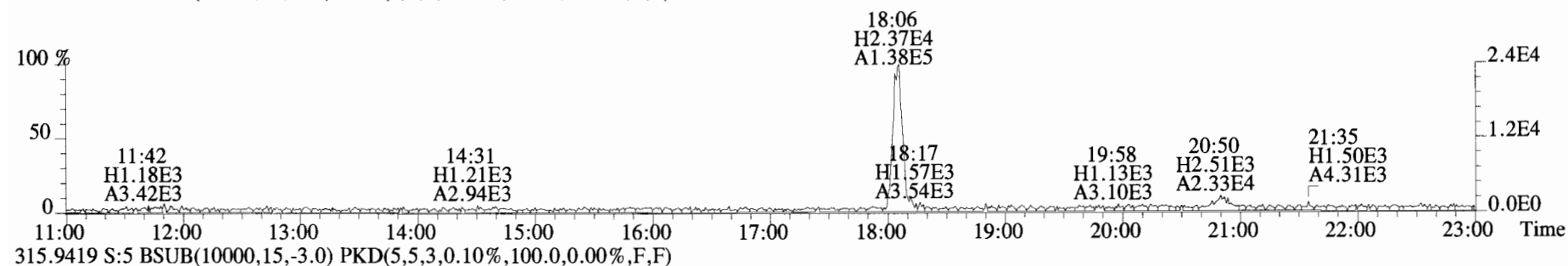
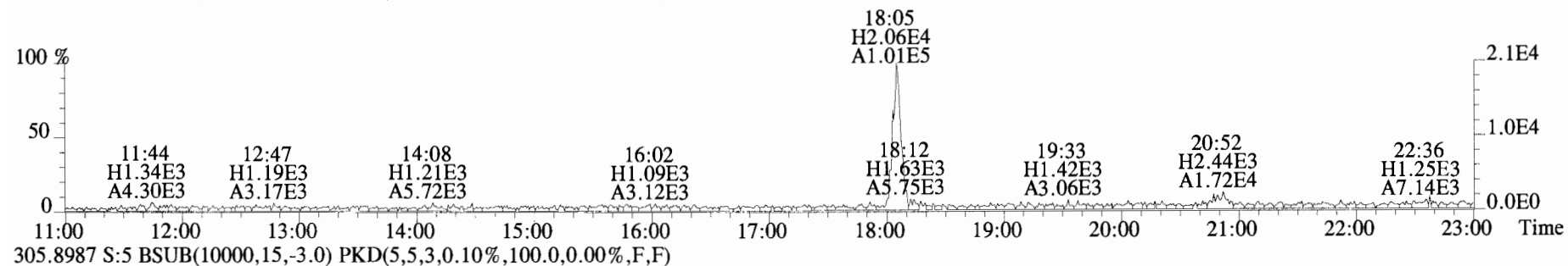
File:190530D1 #1-1683 Acq:30-MAY-2019 12:37:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



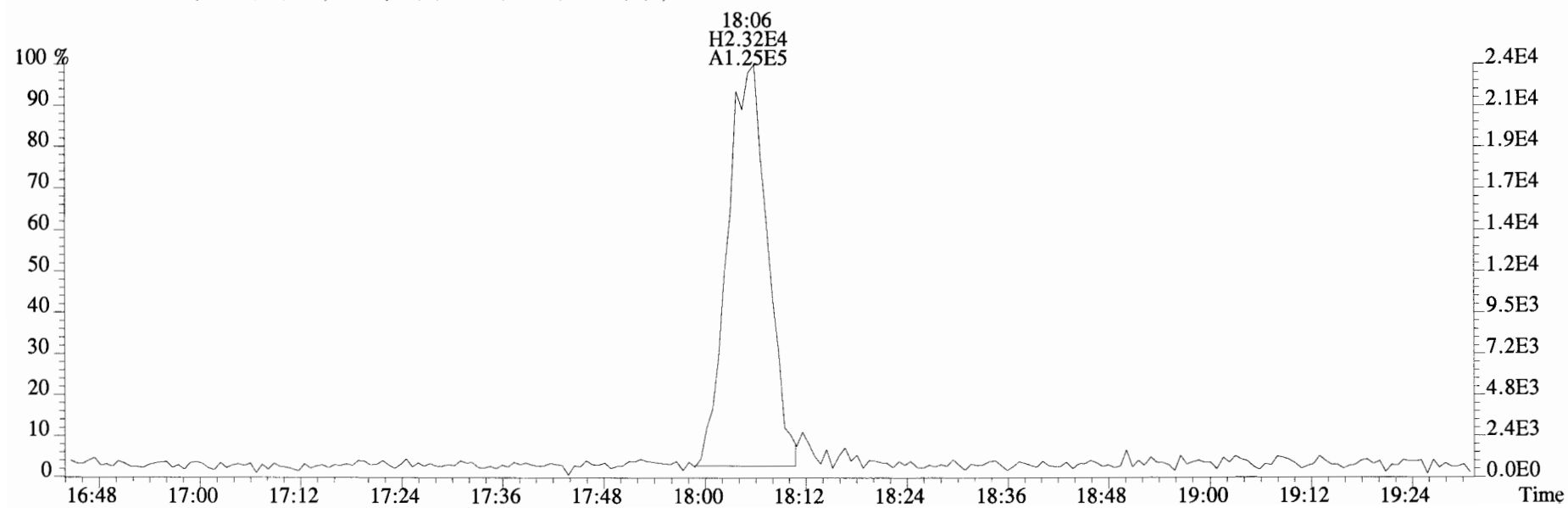
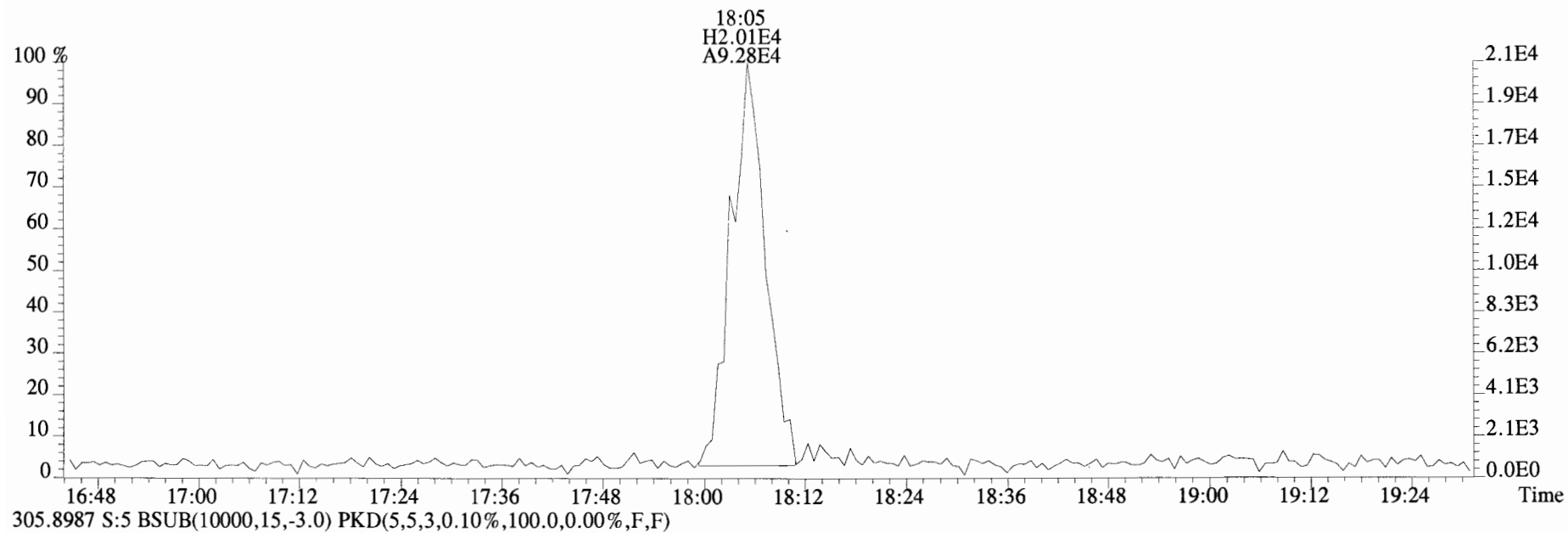
File:190530D1 #1-1683 Acq:30-MAY-2019 12:37:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



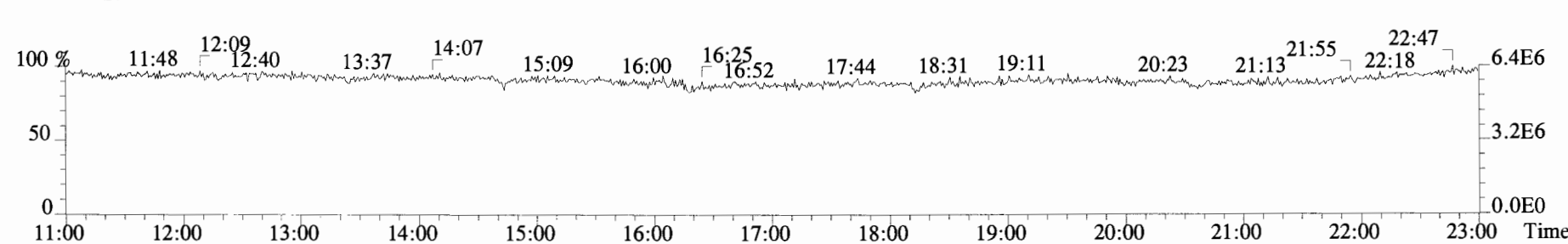
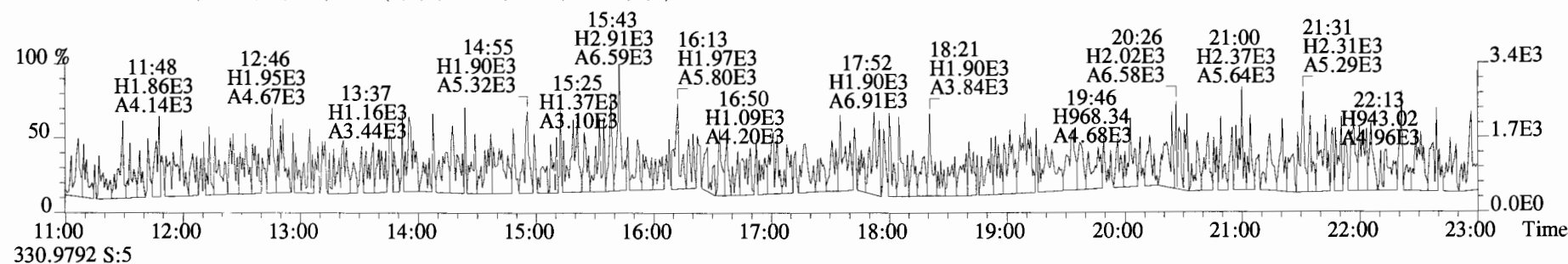
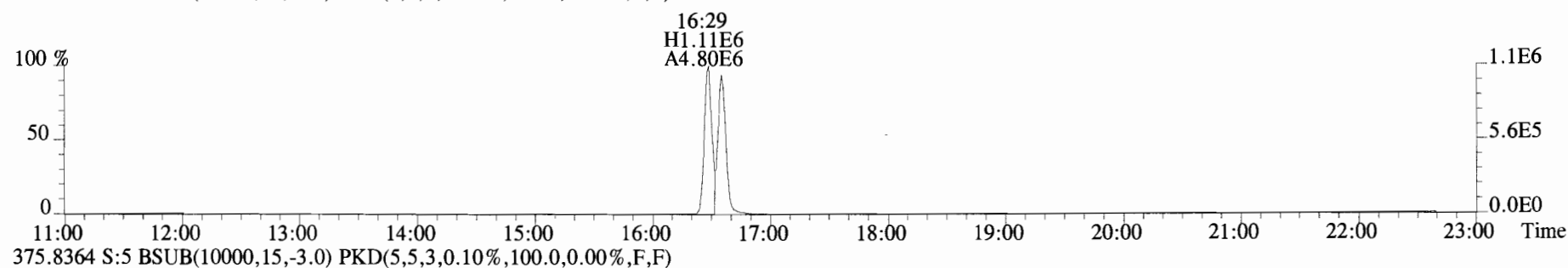
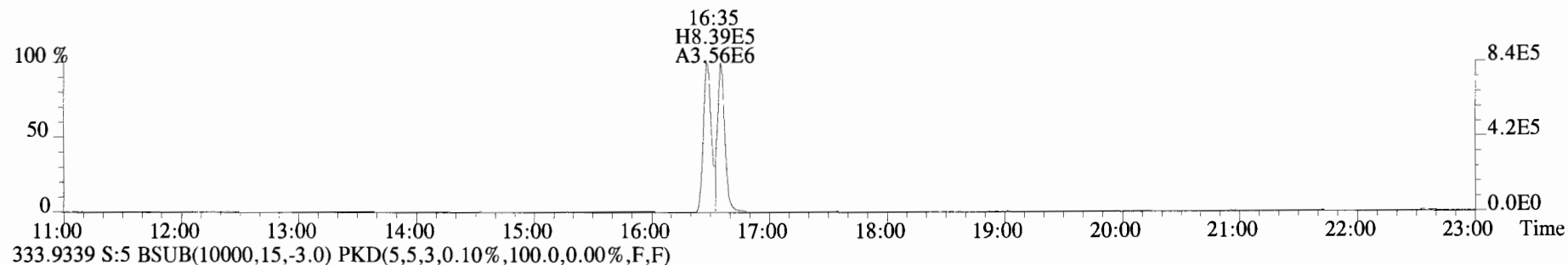
File:190530D1 #1-1683 Acq:30-MAY-2019 13:09:20 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
 303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



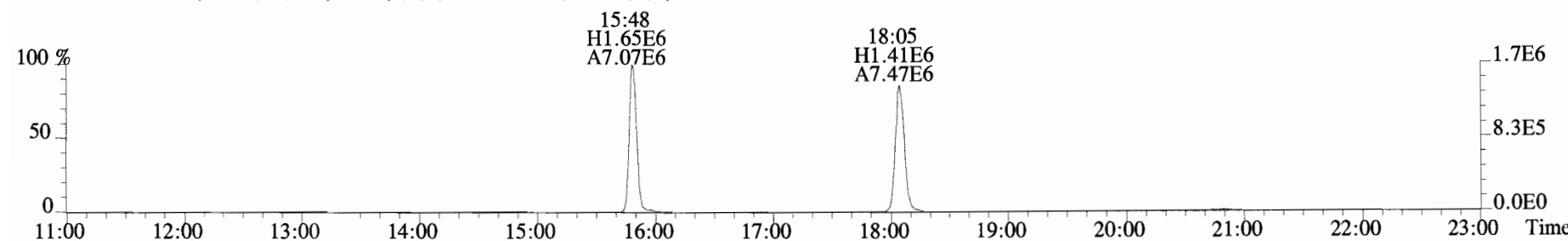
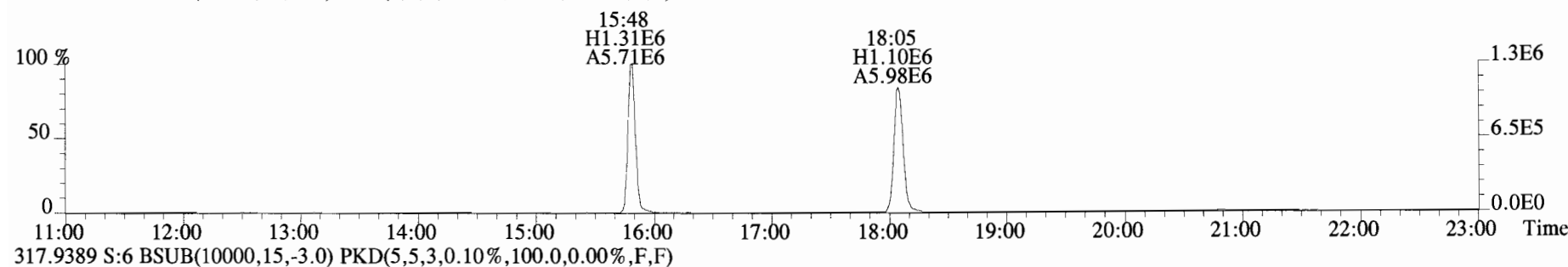
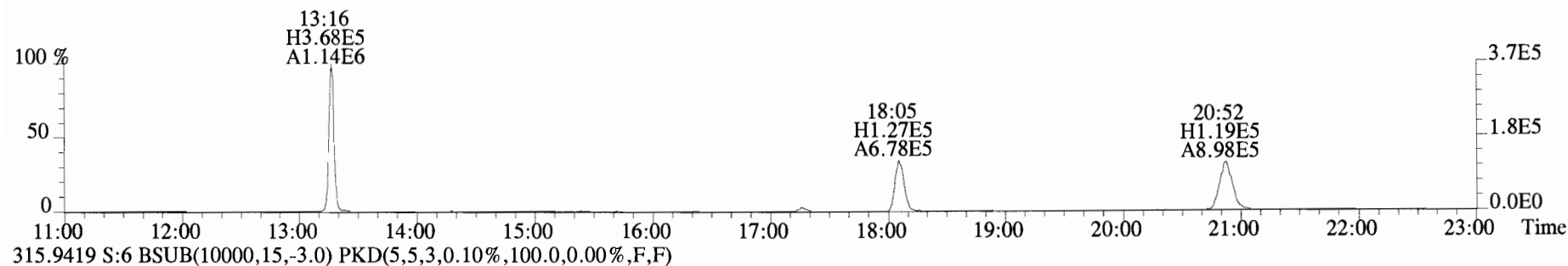
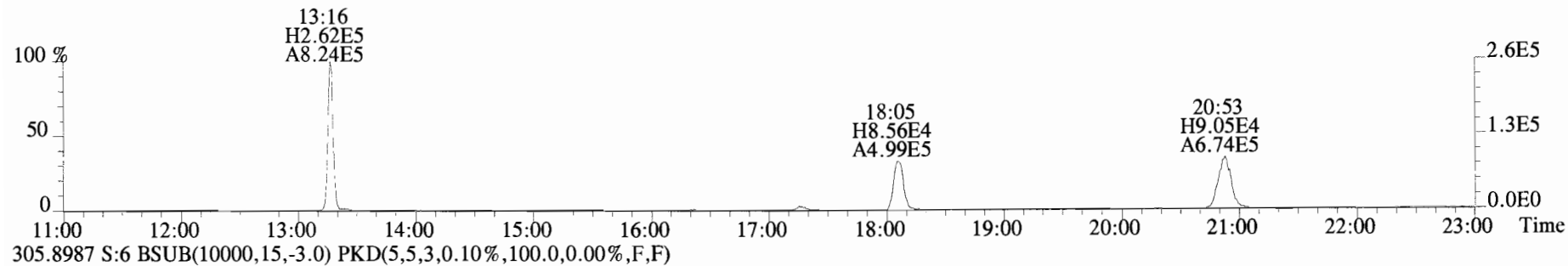
File:190530D1 #1-1683 Acq:30-MAY-2019 13:09:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



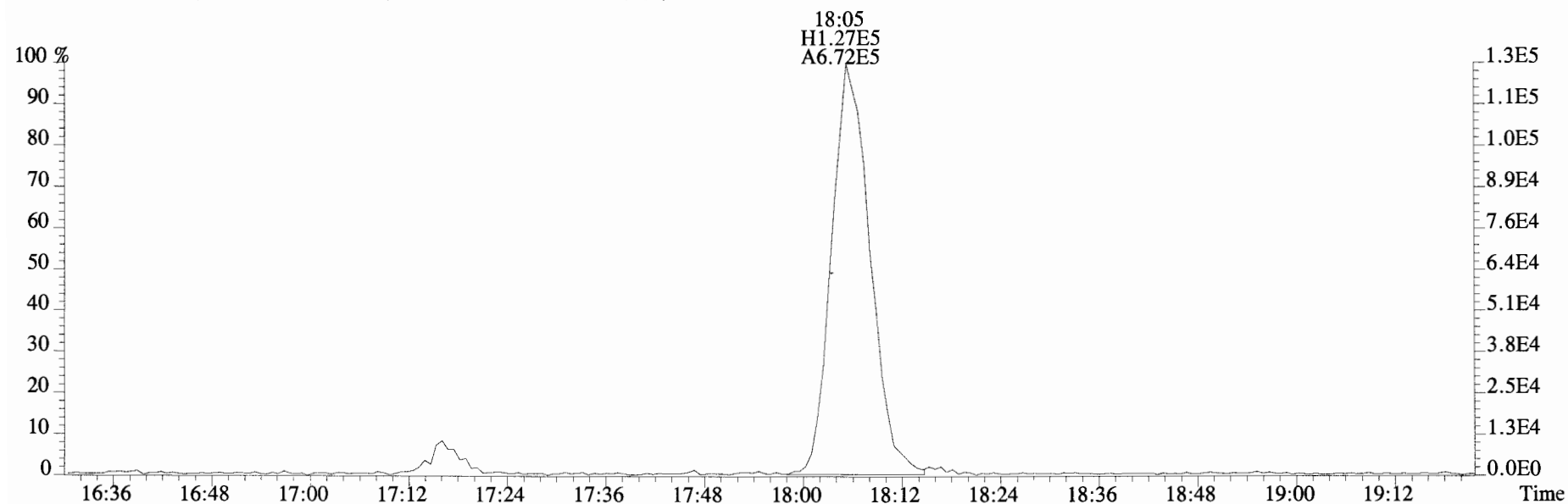
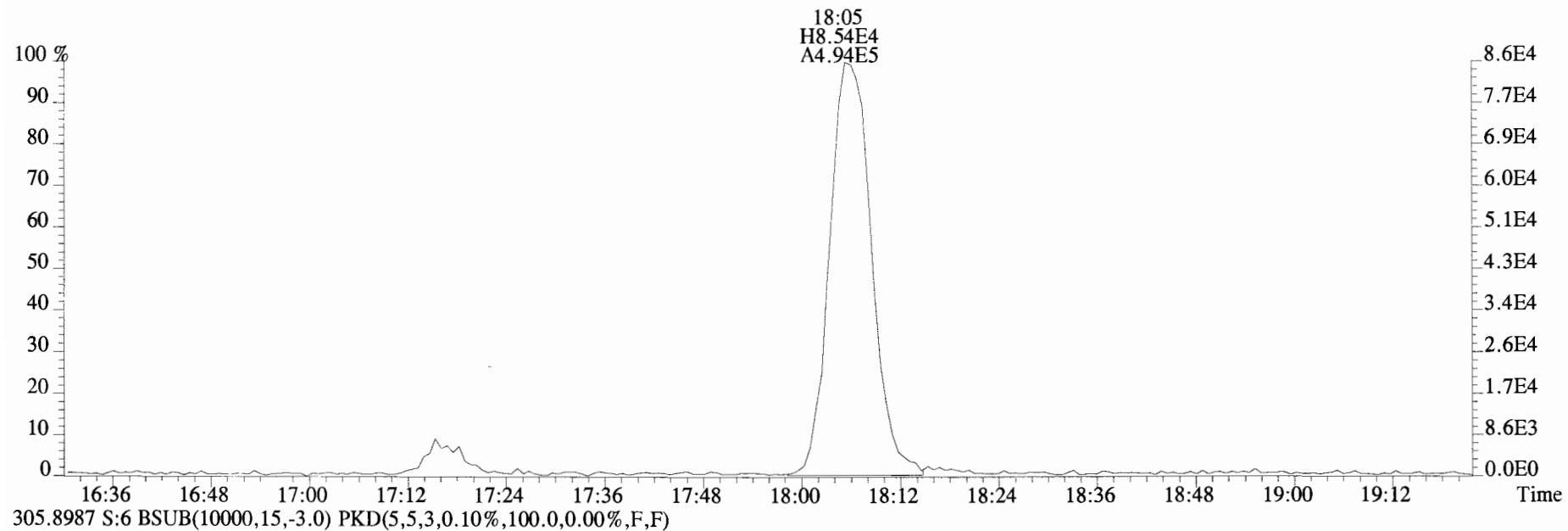
File:190530D1 #1-1683 Acq:30-MAY-2019 13:09:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



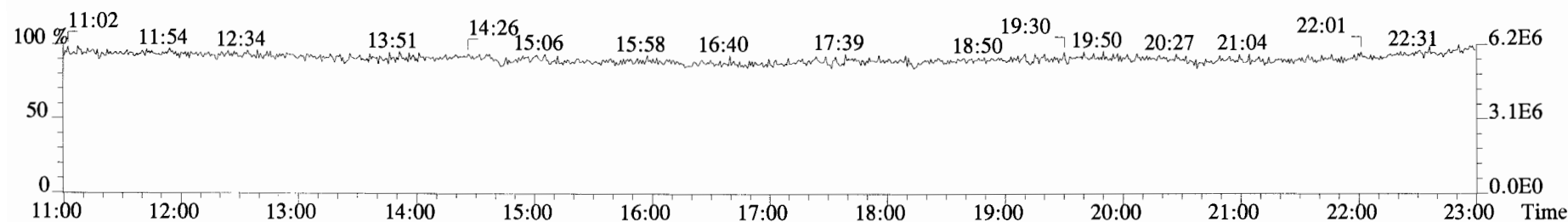
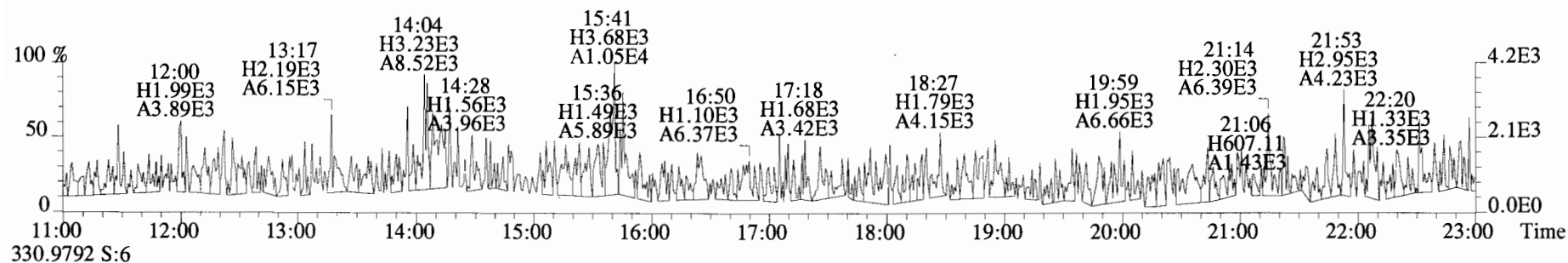
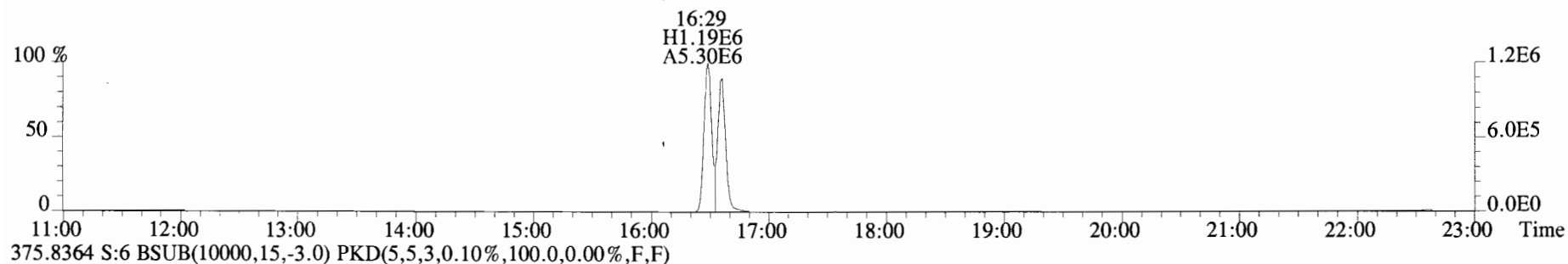
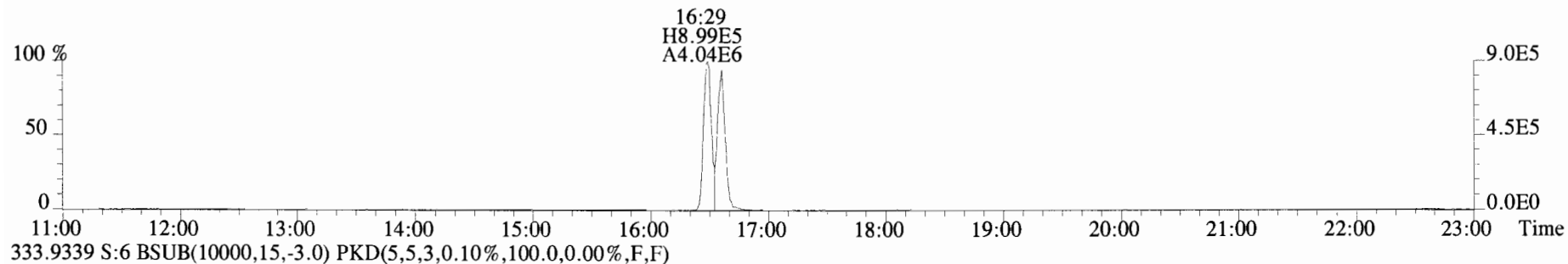
File:190530D1 #1-1682 Acq:30-MAY-2019 13:41:11 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



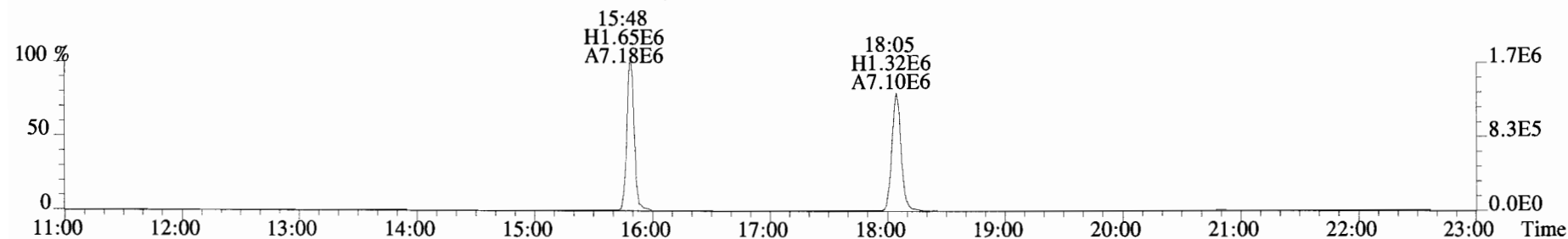
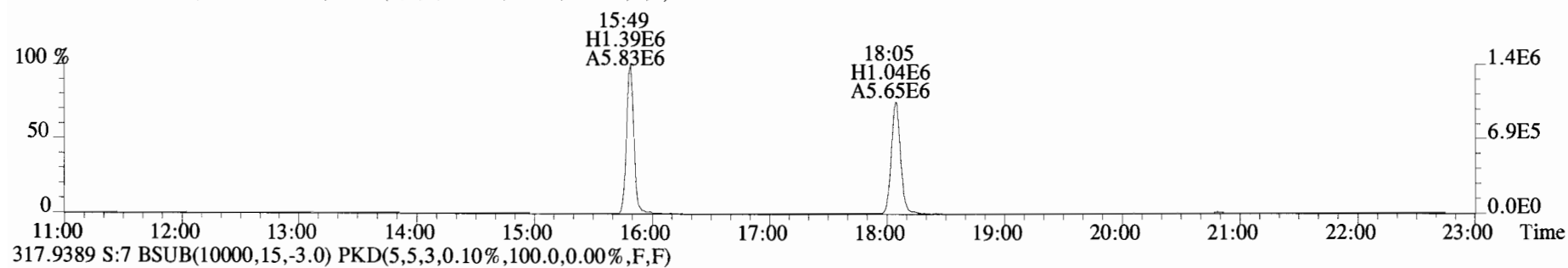
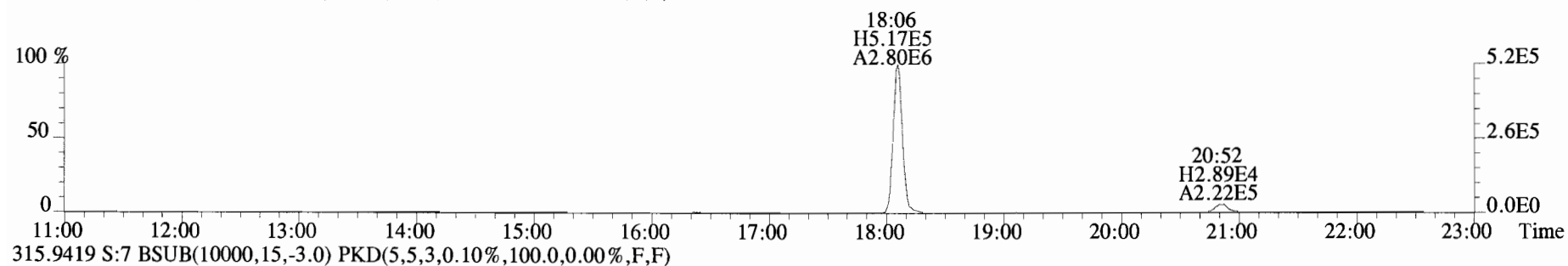
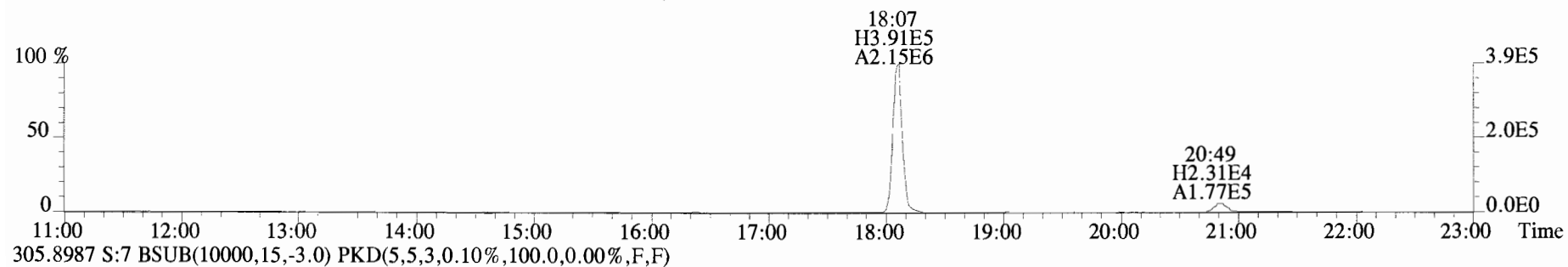
File:190530D1 #1-1682 Acq:30-MAY-2019 13:41:11 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



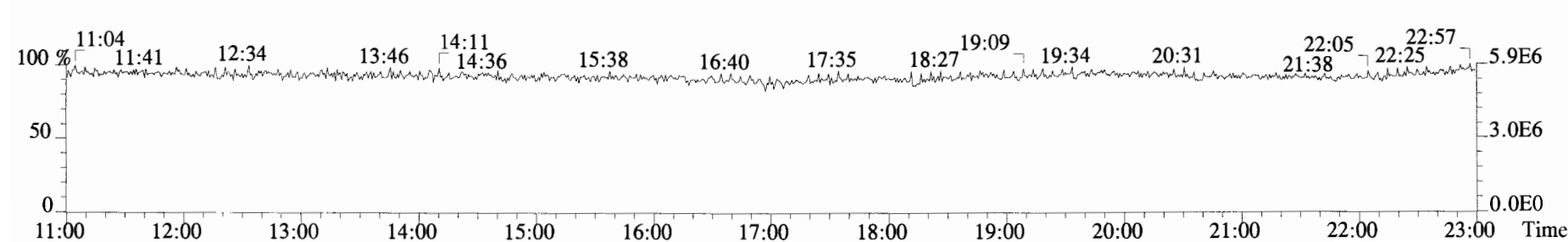
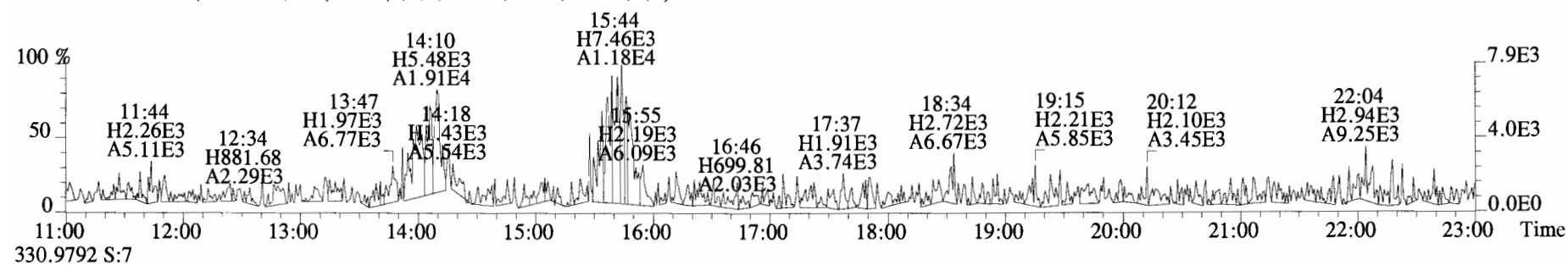
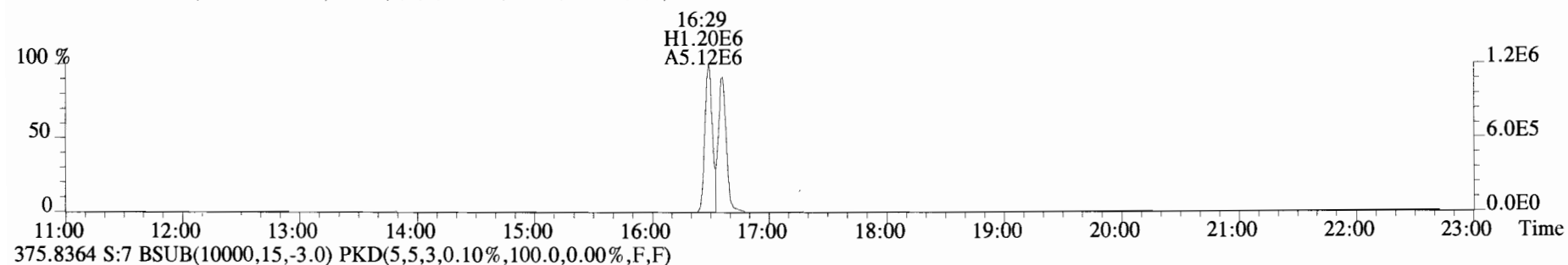
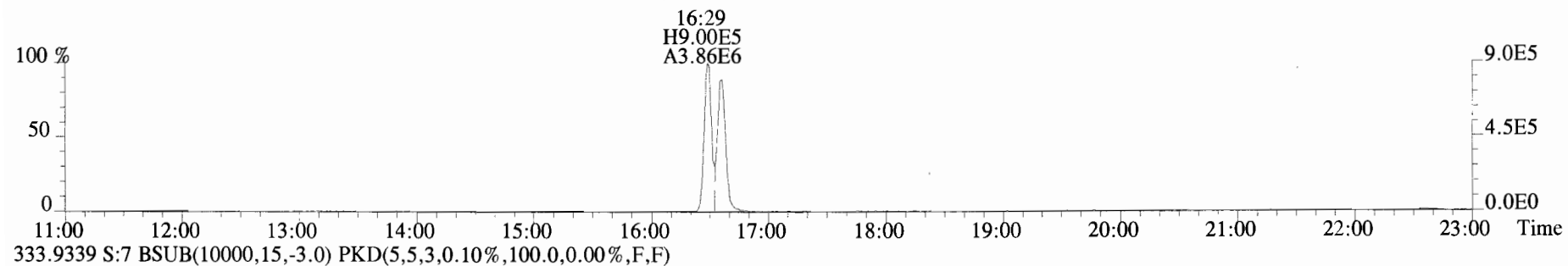
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Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



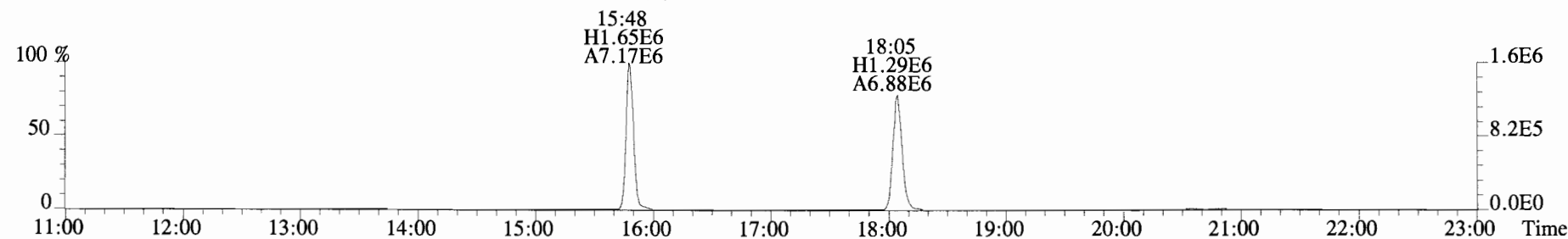
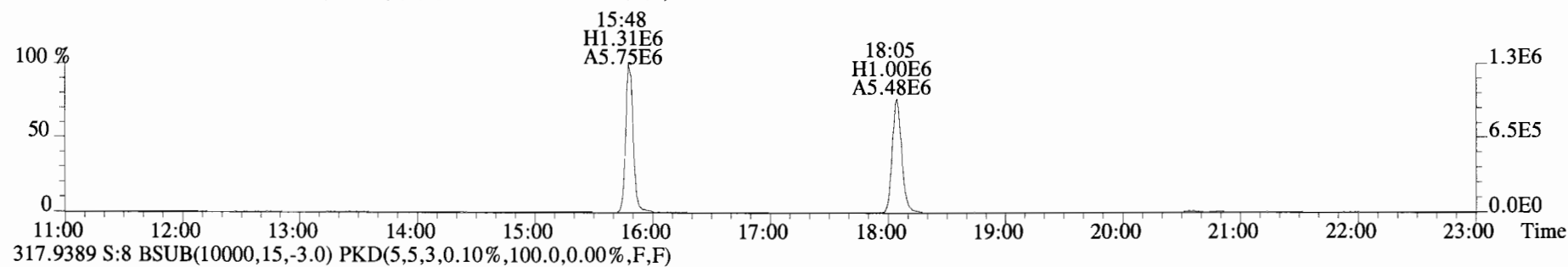
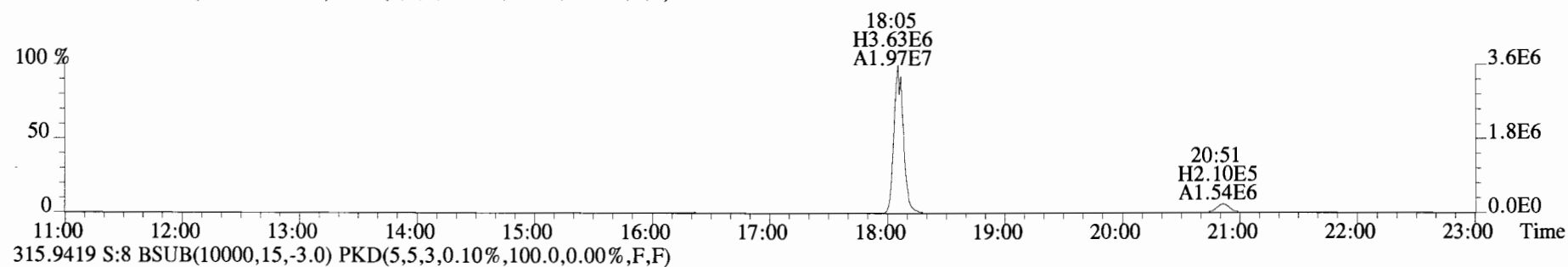
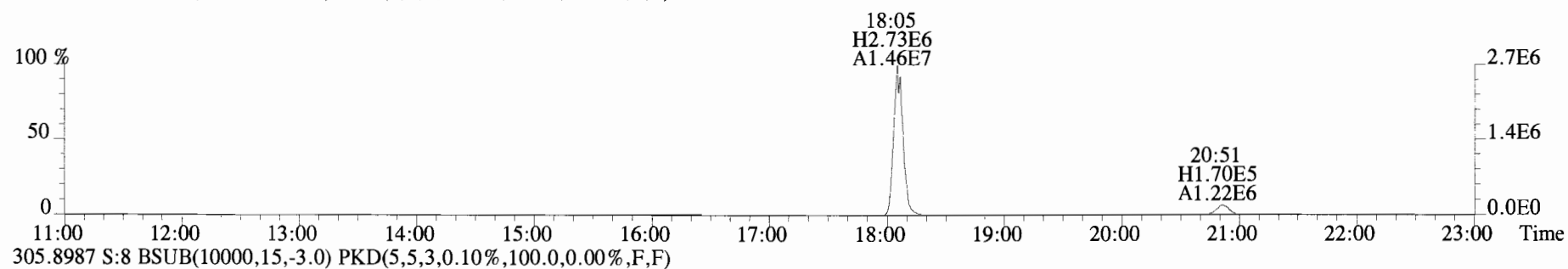
File:190530D1 #1-1682 Acq:30-MAY-2019 14:13:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text: Vista Analytical Laboratory VG7 Text:ST190530D1-5 1613 CS4 19C2205 Exp:TCDF_DB225
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



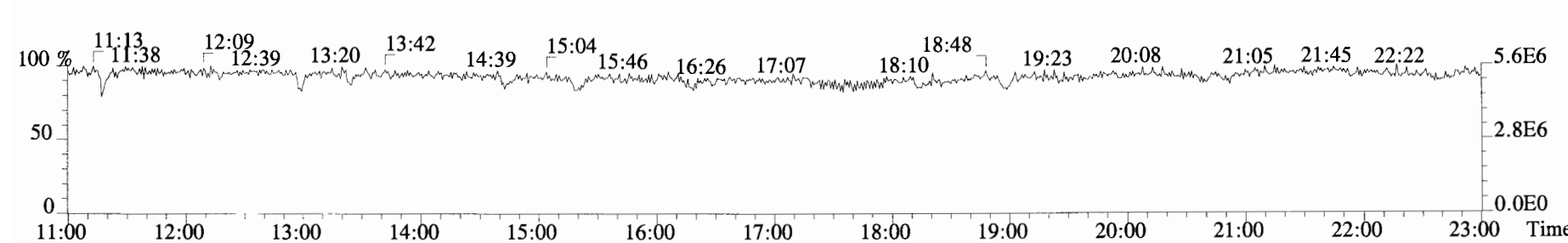
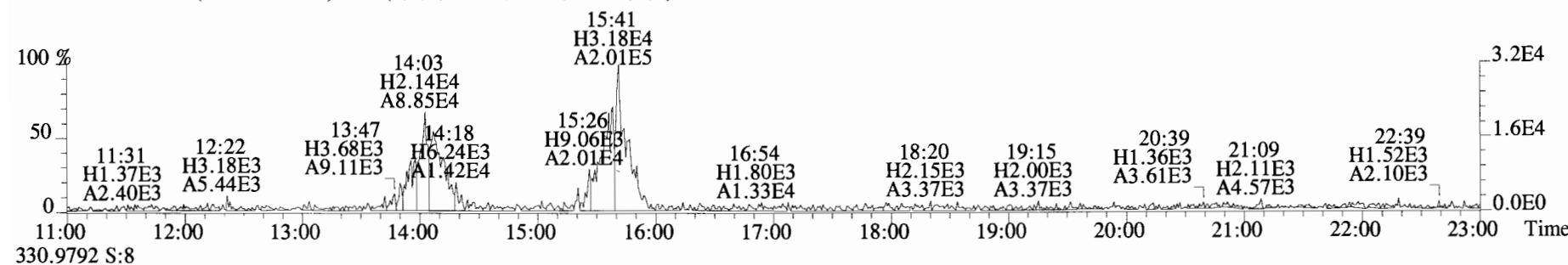
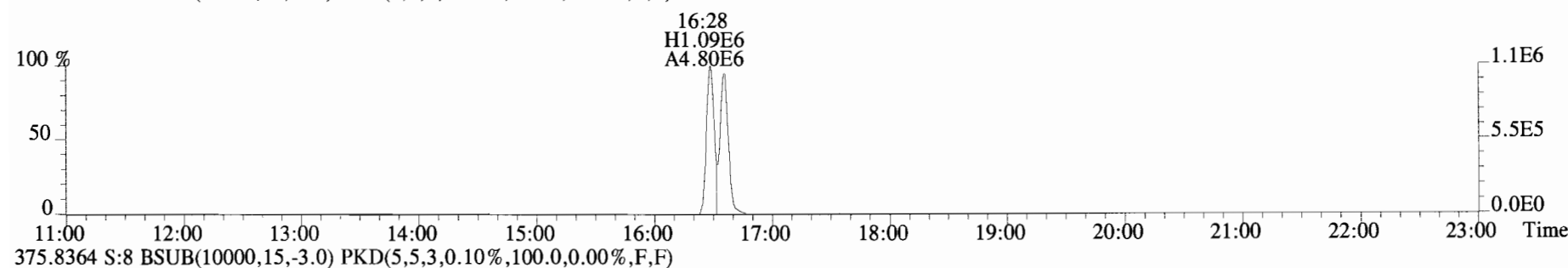
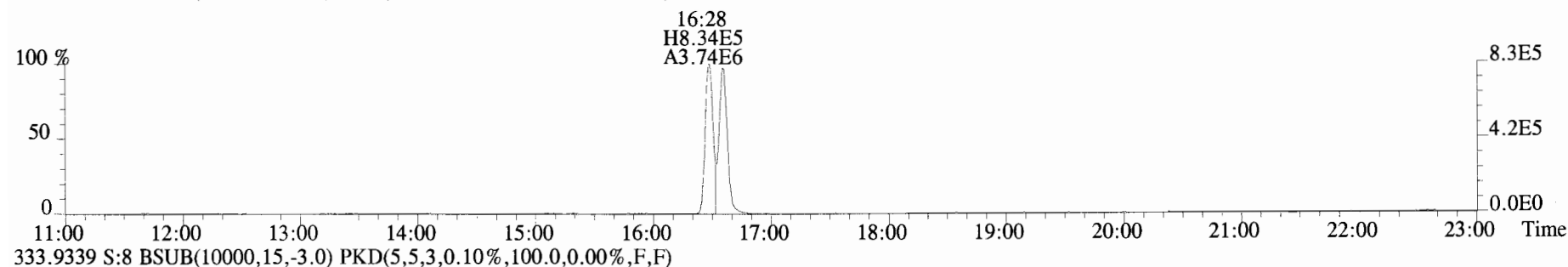
File:190530D1 #1-1682 Acq:30-MAY-2019 14:13:01 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#7 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-5 1613 CS4 19C2205 Exp:TCDF_DB225
 331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190530D1 #1-1682 Acq:30-MAY-2019 14:44:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-6 1613 CS5 19C2206 Exp:TCDF_DB225
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

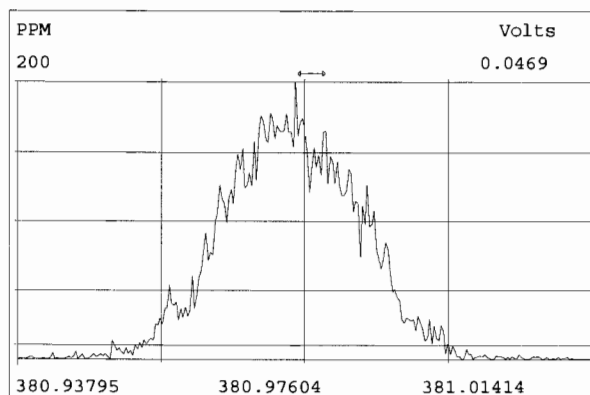
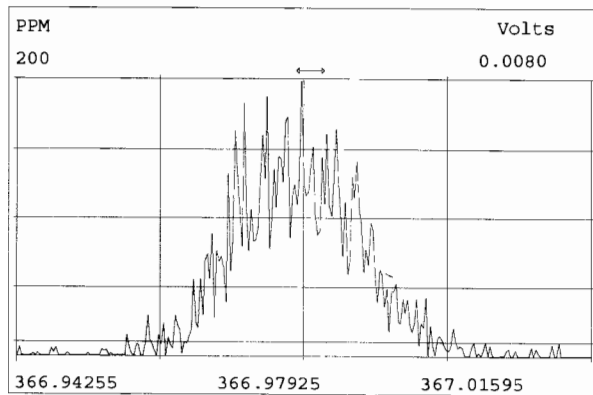
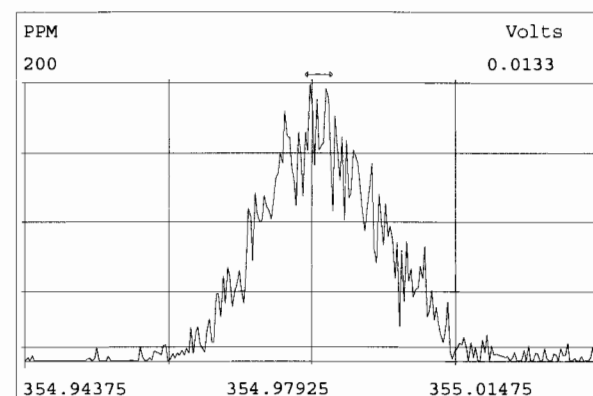
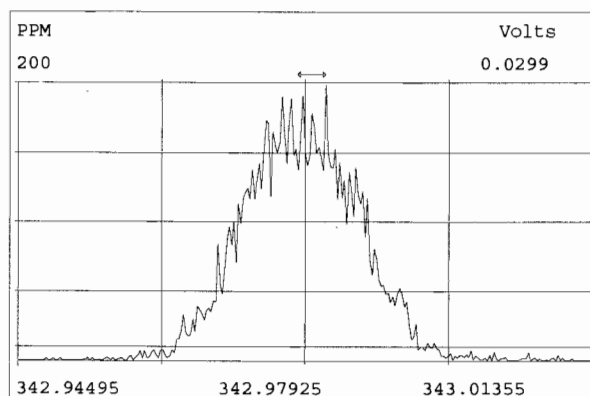
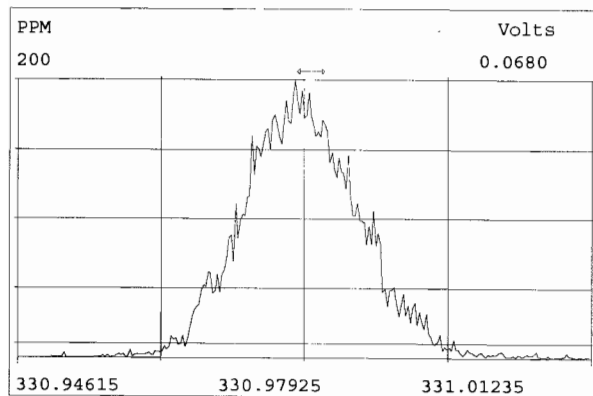
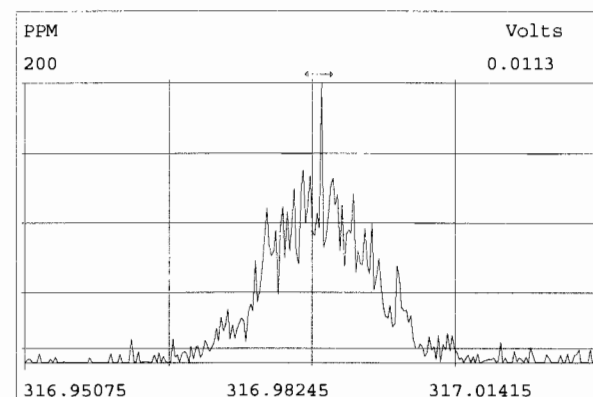
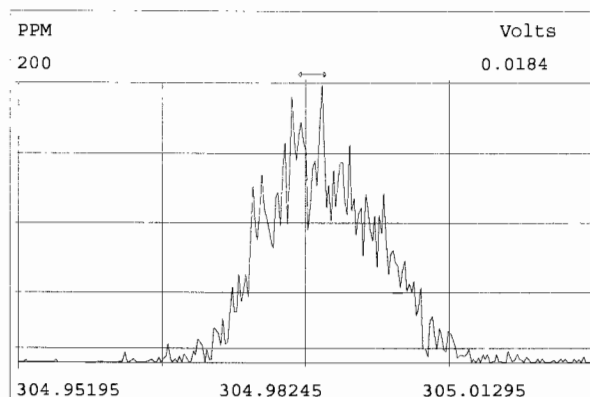
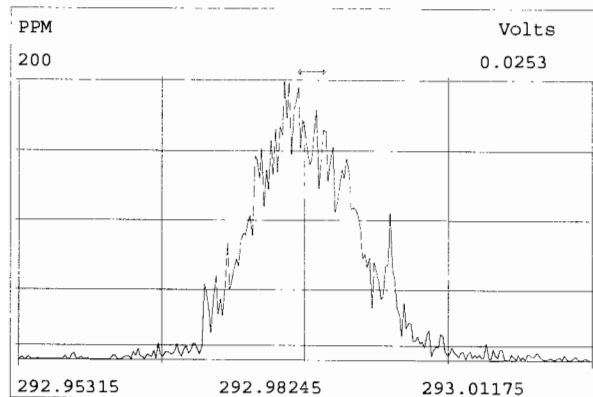


File:190530D1 #1-1682 Acq:30-MAY-2019 14:44:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-6 1613 CS5 19C2206 Exp:TCDF_DB225
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Peak Locate Examination:30-MAY-2019:19:09 File:RES_CHECK

Experiment:TCDF_DB225 Function:1 Reference:PFK



Client ID: 1613 SSS 19C2207

Filename: 190530D1 S:10 Acq:30-MAY-19 15:48:32

ConCal: ST190530D1-4

Page 1 of 1

Lab ID: SS190528D1-1

GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 1.000

EndCAL: NA

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	1.15e+07	0.82 y	15:48	1.00	100.0	-
13C-2,3,7,8-TCDF	1.18e+07	0.80 y	18:04	1.02	100.0	100.0
2,3,7,8-TCDF	1.08e+06	0.74 y	18:05	0.95	9.628	

Integrations

by
Analyst: DB

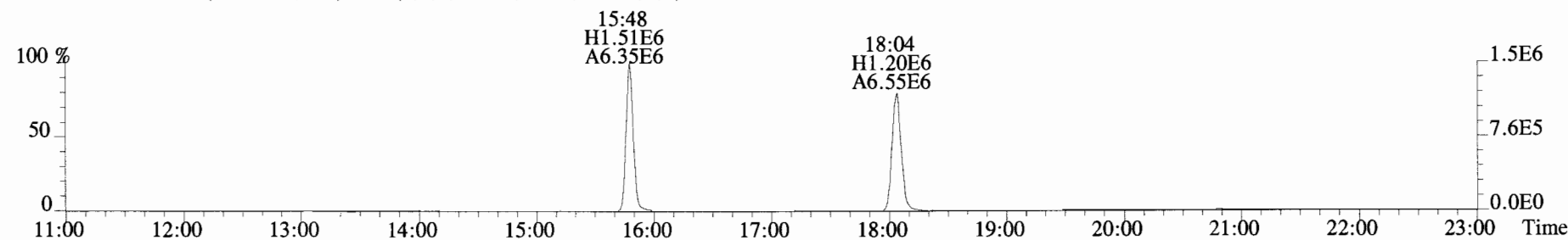
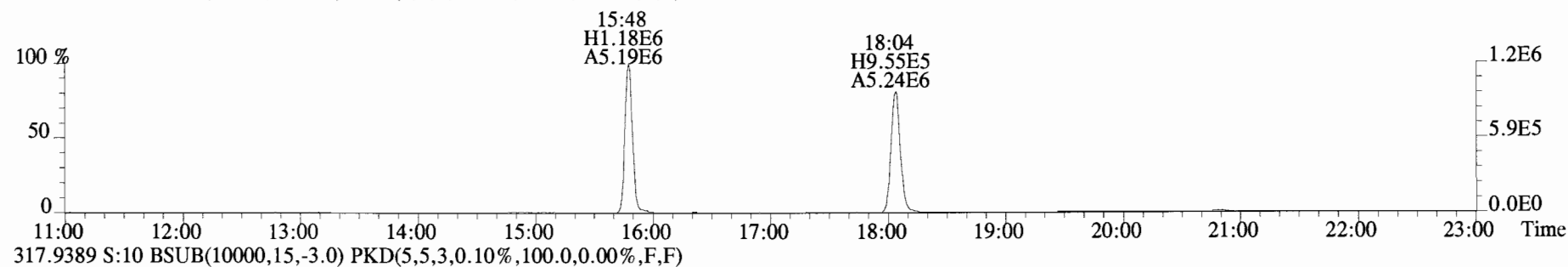
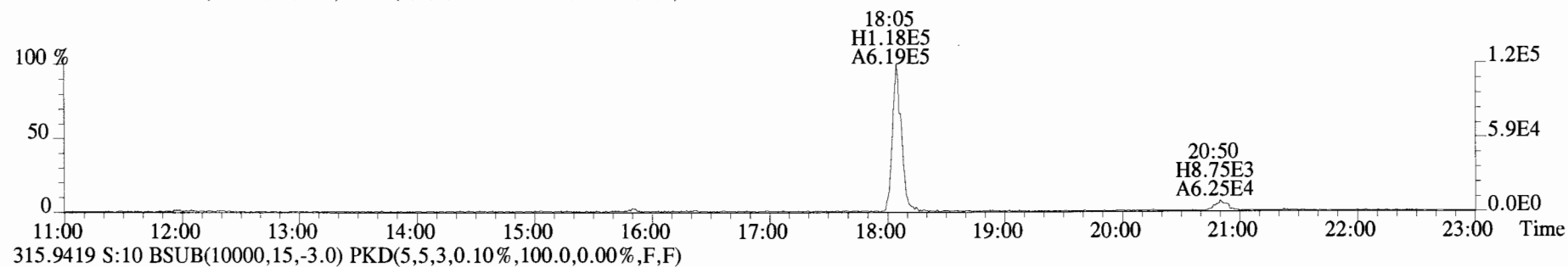
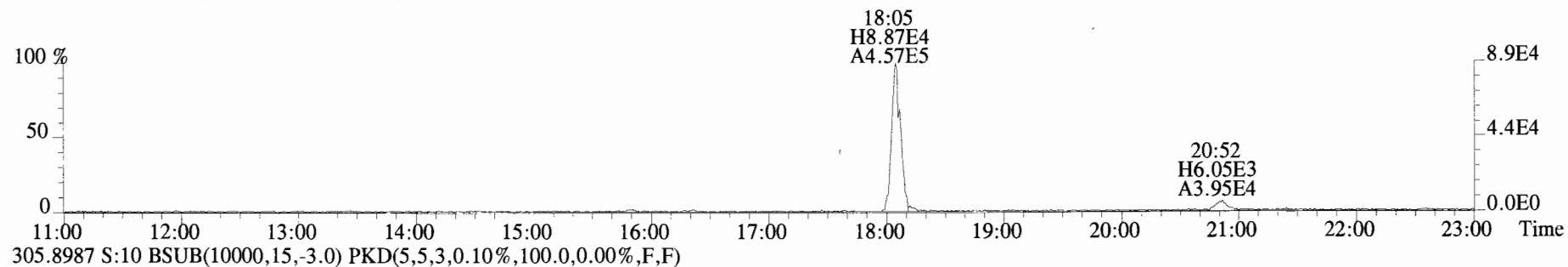
Date: 5/31/19

Reviewed

by
Analyst: CT

Date: 05/31/19

File:190530D1 #1-1682 Acq:30-MAY-2019 15:48:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:SS190528D1-1 1613 SSS 19C2207 Exp:TCDF_DB225
303.9016 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190530D1 #1-1682 Acq:30-MAY-2019 15:48:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text: Vista Analytical Laboratory VG7 Text:SS190528D1-1 1613 SSS 19C2207 Exp:TCDF_DB225
 331.9368 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

